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THIS WEEK'S NEWS

PAGE

A CANTEEN AND TRAINING CENTRE has been built at Baker-street, London, by the London Transport Executive and is believed to be the first of its kind run by an industrial organisation. The building is illustrated and described. 167

NEW TUBE AND GARAGE PROJECTS, including the extension of the Bakerloo line and the construction of several new bus garages in the London area, are among plans announced by the London Transport Executive. 176

A LONDON FIRM employing 600 men is the fourth to be described in our series on "The Organisation of Building Firms." 177

SOME COMMENTS on local authorities who, "despite the lessons of the past, persist in building houses by direct labour" have been made by Mr. Norman Longley, President of the National Federation of Building Trades Employers. 180

MR. NIGEL HANNEN, President, London Master Builders' Association, has referred to the solution of the apprenticeship problem as being one of the most urgent things facing the industry to-day. 180

CONSERVATIVE HOUSING POLICY

THE speculative house-builder has been often attacked, particularly for his activities between the wars. It is true that his work was frequently open to serious criticism on many grounds — its unimaginative layout, its lack of architectural quality, its monotonous repetition of "semi-detachment," its low standard of construction, finish and equipment. Yet with all his faults the speculative house-builder had certain merits. He was at least efficient in his organisation, he built quickly, and provided year after year an enormous number of houses for sale at a reasonable price, which were promptly acquired by working-class people with the help of building society mortgages. It can be claimed, indeed, with the necessary reservations, that this much-maligned house-builder performed an important social service. The local authorities after the first World War had proved themselves incapable of providing houses in the numbers needed at an economic cost ; and without the admittedly self-interested activities of the private house-builder there might well have been serious social unrest as a result of the lack of housing accommodation. However, his defects were held to outweigh his virtues by the present Labour Government, notwithstanding that in the meantime the responsible house-building industry had "put its house in order" by, *inter alia*, setting up a register of builders pledged to good standards of design and construction.

It is generally admitted that the housing work carried out by the local authorities since the war has shown a considerable improvement in quality—though with a serious falling off in numbers and a great relative increase in cost—as compared with the performance of the private house-builders before the war. Far greater numbers of houses at lower cost are needed than are being produced by local authorities under the Government scheme. How are they to be obtained ?

The Conservative Party's statement of policy, the section of which relating to housing was published in our last issue, makes a number of suggestions. A Conservative Government, it is stated, would make greater use of private builders by freeing the industry from those restrictions which prevent the builder from organising his work and planning ahead. It would move progressively towards abolishing the restrictive licensing system as it applies to house building. It would amend the Town and Country Planning Act and, by widening the scope for the private builder and lowering costs, bring house ownership within the reach of increasing numbers of people. The Building Society movement would be assisted and encouraged. The standard of houses built would be safeguarded by making it compulsory for builders to register with an appropriate inspecting body when houses are built with the aid of public funds or public credit. Private enterprise would be encouraged to meet part of the need for houses to rent, while local authorities would continue to play the leading part in providing for those who need houses or flats at subsidised rents.

The foregoing are the main points of this statement of policy, which, on the whole, seems to be sound and progressive. It is clearly no more than an outline which needs a good deal of detailed filling-in. For instance, we should like to know more about the amendments proposed to the Town and Country Planning Act. While it is clear that this Act is hindering a good deal of development, and may be in need of some revision, no intelligent person wishes to see a renewal of the inefficient development of land which took place between the wars and earlier. No doubt the policy of the Conservative Party will be clarified and fully expounded on this and other points before the General Election.

The most hopeful part of the statement is that which relates to house-building. It is clear beyond any sort of doubt that the housing needs of the country are not at present being met. Indeed, evidence shows that the gravity of the problem is increasing. A great new impetus to production is needed, which we believe will only be given by the proper encouragement of private enterprise. There are great numbers of working-class people, and others, who wish to be independent of the State and own their own houses. The house-building industry can meet all needs given the necessary freedom of action ; but it is clear that there cannot be, nor is it desired that there should be, any return to the old standards and conditions.

One point in particular in this statement of policy needs clarification. It is stated, as we record above, that builders will be required to register with an appropriate inspecting body when building houses with the aid of public funds or public credit. Does this imply that there are to be no safeguards, beyond what are already provided by legislation, for purchasers of houses built without public funds or credit ? No loophole should be left for a recurrence of those abuses which brought the private house-builders into disrepute between the wars. The great, all-round improvement seen in post-war housing schemes is due to the employment of good architects. We should like to see them employed for all work in future, and so provide the best safeguard of all.

What is wanted is the maintenance of the higher standards of layout, appearance, accommodation and construction of the local authorities coupled with the economy of cost and speed of production formerly achieved by the private house-builders. It is for the house-building industry to show, as we believe it can, that the combination is attainable.

NOTES AND NEWS

Plan for the Cassiterides.

THE long arm of the Ministry of Town and Country Planning has reached out and gathered in the Isles of Scilly. By the Town and Country Planning (Isles of Scilly) Order, 1949—Statutory Order 1949, 1321—the 1947 Act applies to the Isles as if they were a separate county, and the Council of the Isles is the local planning authority under the Act. No doubt it is as well to give these sunny islands the protection of the Planning Act, yet no one who knows them will doubt the ability of the islanders to look after themselves. After all, they have managed to secure exemption from paying income tax, no inconsiderable feat, and yet successfully to prevent the settlement of hordes of people who, frustrated by unsuccessful clashes with their tax inspectors, seek in the "Fortunate Islands" a refuge from the storm.

It is unthinkable that the Scillies should be spoiled by the careless hand of the developer. The architecture of the Isles is that of the arch of the cavern and the grandeur of rocks. Such buildings as there are of recent date are not distinguished, and it is perhaps as well that this westerly and charming land should be protected, even if such protection must, in case of need, be sought in a Cornish court.

Toll Roads of Old England.

ALONG with countless other links with the past, gone never to return, went, some had thought, our toll-roads and bridges. It was known that school teachers still made brief references to them in English history lessons, but apart from that many were under the impression that they had died an inevitable death.

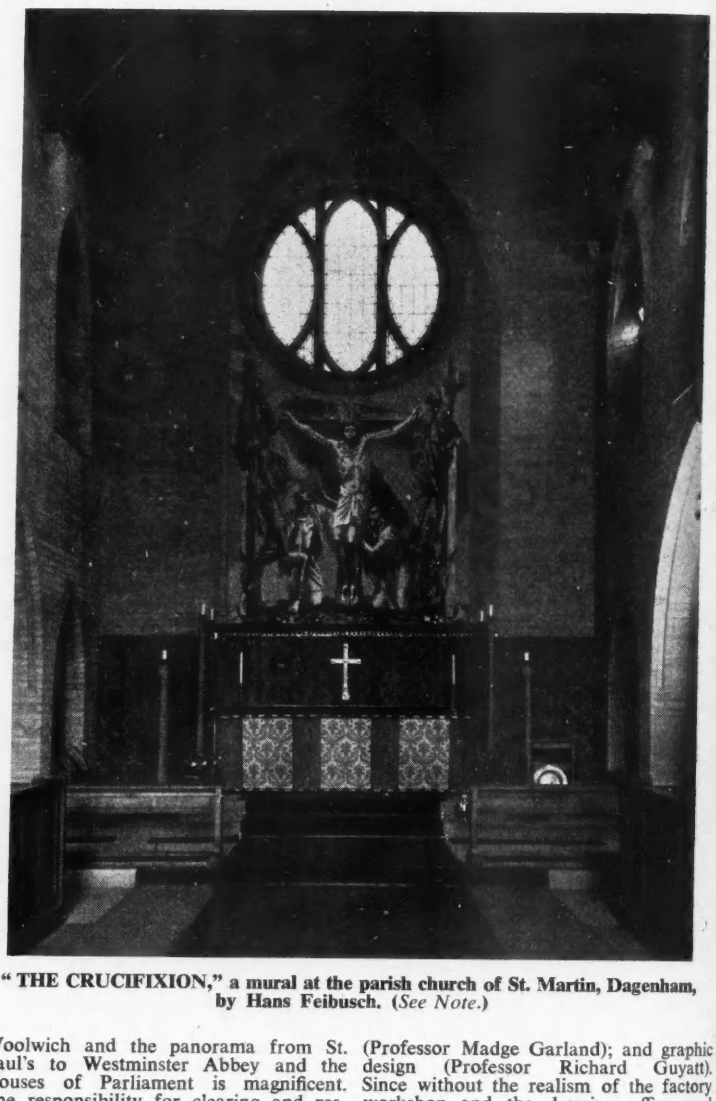
Such will be shaken into a change of mind, however, by the British Road Federation who plainly state that there are 32 toll-roads and 51 toll-bridges still operating in Britain to-day. Scotland has, apparently, ridded herself of toll-roads but not of toll-bridges, for three remain. The Federation says there are eight toll-roads and 15 toll-bridges in North-east England, six toll-roads, nine toll-bridges and one toll-tunnel in the North-west, and in Wales, four toll-roads and five toll-bridges. In all, the length of British toll-roads is about 50 miles.

The first official barriers, erected under the Turnpike Act of 1663, were so unpopular that crowds set about destroying them and many a protesting toll-keeper, it is said, came in for some rough handling.

Toll-roads were still a grievance in 1799. "From Grimsthorpe to Colsterworth" (near the north-east coast), wrote an infuriated traveller, "are eight miles called, by courtesy of the neighbourhood, a Turnpike, but in which we were every moment either buried in quagmires of mud or racked to dislocation by pieces of rock which they term mending."

Primrose Hill.

How long since primroses grew on Primrose Hill we do not know, but if the condition of the ground persists to which Mr. Arthur Kenyon has drawn attention in *The Times* it will be a long time before they return. The huts and gun platforms erected during the war remain in a derelict and dangerous state, says Mr. Kenyon, who asks that the hill may be restored to its normal state before the 1951 Exhibition. On a fine day, one may see down the Thames as far as Woolwich and the panorama from St. Paul's to Westminster Abbey and the Houses of Parliament is magnificent. The responsibility for clearing and restoring the site lies, one imagines, between the A.A. Command and the local authority, and everyone will support Mr. Kenyon's timely plea for immediate action.



"THE CRUCIFIXION," a mural at the parish church of St. Martin, Dagenham, by Hans Feibusch. (*See Note.*)

"Des. R.C.A.": A New Diploma.

THE Council of the Royal College of Art—which has been established as a National College—has given special consideration to the advanced training of designers for industry, which it is the College's primary responsibility to provide. It has also carefully reviewed the conditions under which a diploma should be awarded to the student of Industrial Design at the end of his course. As a first step the former School of Design (which until recently provided a general training in a large number of crafts) has now been divided into six separate schools, each under the charge of a Professor of high standing as an industrial designer, and with adequate supporting staff. These schools are school of wood, metals and plastics (Professor R. D. Russell, R.D.I., F.S.I.A.,); ceramics (Professor R. W. Baker); silversmithing and jewellery and department of industrial glass (Professor R. Y. Goodden, R.D.I., A.R.I.B.A., F.S.I.A.); textile design (Professor J. de Holden Stone, F.S.I.A.); fashion design (Professor Madge Garland); and graphic design (Professor Richard Guyatt). Since without the realism of the factory workshop and the drawing office, and experience of the urgent economic and social factors which control the design of an industrial product, the council feels that no designer can rightly consider himself qualified, it has decided that such experience must form a condition of the award of a diploma in all subjects of industrial design.

Hitherto a College Diploma of Associateship, known as the A.R.C.A., has been awarded to all students successfully completing a three-year course. It is now proposed to distinguish between the fine arts and industrial design and to grant in respect of the latter a special diploma to be known as Des. (i.e. Designer) R.C.A.; this will be granted to successful students in the schools mentioned above. Students working for this diploma will normally follow a three-year course, although the college authorities may shorten or prolong this period by one year. The new scheme will come into operation in 1950, and further details are available from the Registrar, Royal College of Art, South Kensington, S.W.7.

A Modern Mural.

AT evensong at the parish church of St. Martin, Dagenham, Essex, on July 24, the Rev. C. B. Mortlock dedicated a mural

painting of "The Crucifixion," an illustration of which is given on facing page. The mural was executed by Hans Feibusch.

St. Martin is a modern church, which the congregation raised funds to build to replace the concrete and tin building which served for their services previously. They raised further funds for this mural decoration. The mural, which is modern in conception, occupies space behind the altar, and took three months to complete, the semi-circular shape of the alcove and the rose window above the painting presenting unusual problems of composition.

Hans Feibusch, who is one of the founder members of the Society of Mural Painters, has made a special study of church decoration. He painted the "Nativity" mural at St. Wilfred's Church, Brighton, and the "Pilgrim's Progress" at St. Elizabeth's, Eastbourne. He has also executed many murals in public buildings, exhibitions and private houses.

Short Journey to Hatfield.

THE news that Hatfield House has been reopened to the public provided us with an excuse to slip out of London's heat wave and to enjoy once again the charm of this famous early seventeenth-century house. In a changing world, to visit such a place always gives one the impression of arresting the inexorable march of time, and we have often wondered whether architects like John Thorpe gave any thought in their time to the pleasure they would be giving to people three centuries distant.

Hatfield House should definitely be visited, and it comes as something of a blessing to the non-energetic that its gates are a few yards only from the station. Forty-five minutes after leaving King's Cross on the suburban line, one is in sight of perhaps the greatest English house of its period.

Art in Manchester Schools.

ON the recommendation of the City Architect, Mr. Leonard C. Howitt, B.Arch., Dip.T.P., D.P.A., F.R.I.B.A., M.T.P.I., Manchester Education Committee have agreed that one half of one per cent. of the total cost of future new schools should be set aside for work by the sculptor and the artist.

Development at Stratford-on-Avon.

STRATFORD-ON-AVON Town Council are asking the President of the Royal Institute of British Architects to suggest the names of three eminent architects, one of whom may be requested to advise the Council on all aspects of the proposed development of the Bridgefoot area.

Borough Architects Under Engineers.

WREXHAM Town Council has decided to incorporate its Architect's Department with that of the Borough Engineer and Surveyor, despite opposition by Ald. C. O. Jones, who declared it to be a retrograde step. It was stated the matter had been brought to a head owing to the resignation of the chief housing architect.

Birkenhead Town Council, which became Labour-controlled at the recent municipal elections, has reversed a decision of the old Conservative-controlled Council relating to the appointment of a borough architect.

The decision to make the appointment was taken some time ago, and a short list of candidates had been drawn up, but at its last meeting the council decided to make no appointment, on the ground that the time was not opportune.

Design Group for Bucks Students.

THE Hon. Secretary of the Bucks Society of Architects, to whom entries in the Students' Design Group (see last week's issue) should be sent, is Mr. W. Leslie Jones, L.R.I.B.A., 87, High-street, Great Missenden.

Royal Fine Art Commission.

THE KING has approved the appointment of Mr. A. C. Richmond as a member of the Royal Fine Art Commission in succession to Mr. R. C. Norman, whose term of office has now expired, and the re-appointment of Professor A. E. Richardson on the expiry of his term of office.

Tate Gallery Trustee.

THE Lords Commissioners of the Treasury have appointed Mr. Henry Moore a trustee of the Tate Gallery in succession to Mr. Charles Wheeler, R.A., whose term of office has expired.

New Chief Architect.

MR. COLIN ST. C. R. OAKES, A.R.I.B.A., has been appointed Chief Architect to Boots Pure Drug Company, Ltd. A 1931 Rome scholar, Mr. Oakes served in Burma during the war as Brigade Major in the 72nd Infantry Brigade and later as A.Q.M.G. in the 36th Division. He was awarded the M.B.E., T.D., and was twice mentioned in despatches.

In a message to the staff announcing this appointment, Lord Trent, Chairman of Boots Pure Drug Co, Ltd., pays a tribute to Mr. Percy J. Bartlett, F.R.I.B.A., who has just relinquished the post of chief architect, having been with the Company since 1927. "With creative skill," says Lord Trent, "Mr. Bartlett has been able to combine sympathetically the needs of our business and the architectural requirements demanded by local sentiment and tradition. . . . His personality and ability will long be remembered by such excellent architecture as is seen in the branches at Canterbury, Jersey, New Bond-street; Cambridge, Sheffield, Colchester and Norwich—to name only a few of the shops which are such a credit to the company."

Professional Announcement.

MESSRS. LAWRENCE A. COOPER AND P. WINTON-LEWIS, of 29, Manchester-street, London, W.1, have opened additional temporary offices at 80, Marine-parade, Worthing, Sussex, at which address they will be pleased to receive catalogues.

FROM "THE BUILDER" OF 1849

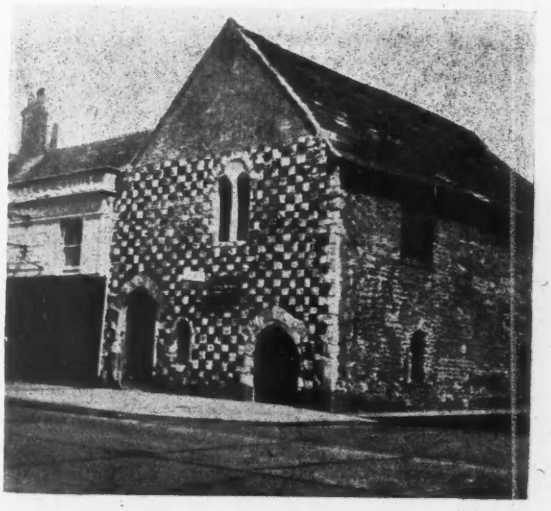
Saturday, August 4, 1849.

PORTLAND BREAKWATER.—The foundation-stone of this national work was laid by Prince Albert on Wednesday week. The stone was a block weighing 14 tons; it was suspended by an iron chain, and being let slip after a bottle containing a plan of the breakwater, specimens of the coinage, etc., had been deposited, fell to the bottom of the sea, in the midst of a drenching shower of spray and a noise like thunder.

The construction of this breakwater, as many of our readers are aware, is not a new idea. It was first proposed by Mr. John Harvey, mechanic to George III, and afterwards postmaster at Weymouth; and after whose death the subject continued in agitation partly by the efforts of Mr. Harvey's son. The attention of the Government, however, was not steadily fixed upon the matter until 1846, when the Refuge Harbour Commission reported very strongly in its favour. But the work was not decided on, even then, until a second Commission had confirmed the recommendation of the first, and pointed out the advantages which the proposed breakwater would secure. The necessary surveys were then made, and powers for the compulsory purchase of land obtained by Act of Parliament, after which Mr. Rendell, civil engineer, was authorised to prepare a design of the work.

THE MARLIPINS, SHOREHAM

THE 14th-century roof of the Marlipins, at Shoreham, is showing signs of deterioration and calls for immediate repair. This old Norman building is one of the most interesting mediæval buildings in Sussex; although the doorways are suggestive of an ecclesiastical origin, it was probably a storehouse for wines in the 14th century, and may have been a customs house when Shoreham-on-Sea was a flourishing port. The roof is a good example of mediæval timber roofing with rafters "laid the flat way" and without principal beams; all the timberwork is secured by wooden pegs. The upper floor is supported by a massive beam 40-ft. in length, which is itself supported by substantial oak posts with curved brackets. The building was purchased by public subscription in 1926, and was transferred to the Sussex Archæological Society.



History of Architectural Education

By MARTIN S. BRIGGS, F.R.I.B.A.

3.—In France Since the Renaissance

ARCHITECTURAL education in France since the end of the Middle Ages may be considered in three stages: (i) from the supplanting of the medieval "master" or "master mason" by the professional architect, *c.* 1550 to the foundation of the French Academy of Architecture in 1671; (ii) from that date to the closing of the Academy in 1793 and its re-establishment as part of the Institut de France in 1795; (iii) the chequered history of the Ecole des Beaux-Arts, etc., since 1795.

Renaissance architecture reached France and England more than a century after Brunelleschi had set the ball rolling in Italy *c.* 1405; and its first apostles in France, as in England, were Italian craftsmen-architects who carried out decorative details rather than whole buildings. Many such artists were honoured guests at the court of François I (1494-1546), who was a great connoisseur and patron of the arts. Sir Reginald Blomfield held that the actual design of the famous early-Renaissance châteaux of Touraine, Blois, Fontainebleau, St. Germain, etc., was done by French master-masons, sadly ignorant of classical precedent but directed by the King and other amateurs; Sir Thomas Jackson awards all the credit to the master-masons; and Mr. W. H. Ward steers a middle course. In *The Architect in History* (pp. 191-204), I have compared these divergent views in some detail; here it must suffice to say that nothing definite is known about methods of training in vogue before *c.* 1550. One may assume that the native "masters" or architects were apprenticed on mediæval lines, that no schools of architecture existed, and that the Italian visitors had followed the Renaissance method of studying ancient buildings in Rome as described in my second article, the real academies of architecture in Italy not having then been founded. But in the third decade of the 16th century, French architects themselves journeyed to Rome to study before settling down to practise at home.

Ten French Architects.

Selecting the careers of ten leading architects of the period 1550-1671, I find that, of the seven whose parentage is known, four were the sons of architects or builders, one of a painter, one of a lawyer and one of a soldier. It may be inferred that all these men enjoyed a fair general education, but our knowledge of their technical training is disappointingly meagre. The sole exception is the case of Philibert de l'Orme (*c.* 1515-1570), son of a small builder in Lyons. According to his own statement, from his earliest youth he devoted himself "to new inventions, consulting the most learned men in Europe in geometry and the sciences necessary for architecture." Somehow he managed to get to Rome, and began measuring ancient buildings which, he says, "I did with great labour, charges and expenses, so far as I was able, not only in ladders and ropes, but also in excavating foundations." This industry brought him to the notice of an influential cardinal, who received him into his palace and "took pleasure in furthering his education." Returning to Paris with a reputation thus established, he became famous for his knowledge of building construction, about which he subsequently published a book in 1561, one of the first of its kind.

Study of the Orders formed the backbone of an architect's training at this period, though perspective and geometry were also considered essential, and there is some mention of mathematics as well as painting. The work of François Mansart (1598-1666), perhaps the most brilliant of my ten architects, shows a complete mastery of classical precedent coupled with great originality in design. Several of these men undertook engineering, civil and military, as well as architecture; and some of them produced notable works of town planning or civic design, e.g., at Richelieu (1620-1635), and the Place des Vosges (1607) at Paris.

The French Academy.

Some architects of my second period (1671-1793) benefited by systematic training in the Academy, shortly to be described, but, of a dozen successful practitioners whom I have selected as typical, only three are known to have actually studied in Rome. Several leading French architects of this period, like Wren and Vanbrugh in England, were complete amateurs when they first undertook practice. Claude Perrault (1613-88) was trained for medicine and obtained doctorates in medicine and philosophy, but he, like Wren, was a man of such superb intellect that when he plunged into architecture at the age of 52 with a competition-design for the Louvre, it was successful, though that success was certainly due in part to intrigues by his brother, who was secretary to Colbert. François Blondel, who became a professor of mathematics in 1655, next a civil and military engineer, and then prepared a scheme for improving Paris, was completely untrained as an architect when he was appointed first director of the Academy of Architecture in 1671, at the age of 52.

Colbert, Minister of Finance under Louis XIV, had a definite purpose in view when he founded that Academy. He wanted a supply of well-trained architects for the ambitious building schemes of the State, as well as a reliable committee of experts to advise him thereon. The Académie Française (1635) and three other academies, including Painting and Sculpture (1648), were already in existence. An Advisory Committee on State Buildings had been formed in 1663, but there were no architects upon it! Colbert's new foundation remedied all these defects. The eight Academicians were all practising architects who met once weekly for discussion and twice to give instruction.

Instruction given to students included, besides design, "the other sciences which are absolutely necessary to architects, viz., geometry, arithmetic, mechanics, hydraulics, gnomonics, military architecture, perspective, stereotomy, and various branches of mathematics." The lectures on mathematics, statics and mechanics were given by the permanent secretary of the Academy, the Abbé Comus, not himself an architect. Lectures on engineering, painting and sculpture were added to the curriculum in 1762. By that date, design-programmes had become more modern and practical and less academic; indeed, for one subject, students were actually advised to use the Orders sparingly and only in portions of the building which were adapted to receive them! The number of students grew from six in 1671 to 47 in 1746. They had to be at least 16 years of age on entry and to possess an adequate grounding in science and literature as well as some practice in drawing. Even as early as 1675, Blondel prophesied that "in the future, foreigners will come to us to learn architecture," a forecast that has since been abundantly fulfilled.

The French Academy at Rome was established in 1663, and from the outset two of the 12 students were architects. They were selected from winners of the Grand Prix de Rome, and were required "to make plans and elevations of all the fine buildings in and around Rome." They resided on the premises, where studios were provided. They had to get up at 5 a.m. in summer, 6 a.m. in winter, and to go to bed at 10 p.m., "not omitting to say their prayers." They fed together, one student being told off to read history during the meals. Soon the Academy fell on evil days. The number of students dropped to three in all in 1704, when it was seriously proposed to close it, but the numbers recovered to eight in 1735. Both this Academy in Rome and the Academy of Architecture in Paris were closed by the Convention in 1793, but were revived again in 1795 without much loss of continuity. The beautiful Villa Medici was acquired in 1803 as new premises for the French Academy in Rome.

The Birth of the Beaux-Arts.

In 1795 the new Académie des Beaux-Arts was established as a "class" of the Institut Français, and had 24 members, of whom six were architects. In 1803 it was reconstituted with 29 members. The number of architects continued unchanged but was increased to eight out of a total of 41 members on a further reconstruction in 1815. The subjects of study remained much as before, but although Leroi taught "the history of architecture, the Orders, buildings erected by ancient peoples, and the works of Vitruvius, Palladio, Scamozzi and Vignola," it was mainly from Greece that he drew his models, for the Greek Revival had begun. Soon, however, the Gothic Revival made itself felt, and violent attacks on the classical tradition led to a proposal in 1831 to vary the official teaching. This move was countered by a new veto on Gothic designs, when the subject set for the Grand Prix de Rome was a parish church. The strife between the two opposing factions became so bitter that a new decree of 1863 profoundly modified the organisation and led to its assuming the form in which it exists to-day. The Ecole des Beaux-Arts was placed under a Director appointed by the Minister of Public Instruction and thus became a State Institution. Studio-masters as well as professors were introduced. New courses were added in perspective, practical geometry, geology, physics, chemistry, and practical book-keeping; and in 1883 the simultaneous study of architecture, painting and sculpture was included.

In course of time, regional schools of architecture came to be founded in the larger French cities (e.g. Lille, Rouen, Rennes, Lyons, Marseilles, Strasbourg, etc.); but all were affiliated to the Ecole des Beaux-Arts in Paris, programmes and competitions being identical and simultaneous. The course of study came to occupy about five years and was in four stages, including the big competition at the end. The entrance-test, for which students were prepared in all the principal *ateliers*, comprised design (12 hours), drawing and modelling (eight hours each), and descriptive geometry, together with a

written paper in mathematics and oral examinations in science and in the history of art. The numerous candidates, were reduced to 60, of whom 15 had to be foreigners. The second stage culminated in an examination in construction, science, algebra, statics, geometry, perspective, and stereotomy; candidates also had to have obtained six "mentions" for architectural composition. The third stage involved examinations in construction, physics and chemistry; but all the rest of the time was devoted to design, and led to the final diploma. After this, as a post-graduate course, came the competition for the Grand Prix de Rome.

Some Grand Prix Subjects.

The R.I.B.A. Library contains a series of large folio volumes illustrating all the winning designs in that famous competition from 1850 to 1935 inclusive, as well as two volumes of earlier designs from 1791 to 1815. These enable us to follow changes in architectural fashion during a long span of years. Occasionally a Gothic design was premiated, and sometimes in recent years a winning design has been almost astylar or has otherwise shown modern influence; but all through its lengthy history the competition has maintained the academic tradition of monumental design and of splendid draughtsmanship. Analysing 126 programmes set between 1797 and 1935, I find that certain subjects (e.g. a cathedral, a town-hall, a museum, exhibition-buildings) have been set on numerous occasions. Only once has a housing problem been set—"six houses for six families" in 1805. Occasionally a frankly artificial programme has been devised (e.g. a "Château d'Eau" in 1873 and again in 1905); but the most frequent choice is an isolated public or educational building, with rare excursions to sites overseas.

The influence of the Ecole des Beaux-Arts has been enormous not only in France but notably in the United States, whose architectural students made Paris their Mecca in the last quarter of the nineteenth century. In England its influence has perhaps been less obvious, but was certainly powerful a generation ago. The French Beaux-Arts system was well described in papers by MM. Paul Léon and A. Defrasse read before the First International Congress on Architectural Education, 1924; and recently has been brilliantly expounded and defended by one of its most distinguished English products, Howard Robertson, in an address to the Architectural Association of Ireland, reported in *The Builder* of March 25, 1949. This brings the story right up-to-date.

*** In his fourth and final article in this series, Mr. Briggs will outline the course of architectural education "in England since the Renaissance."

BUILDING IN ITALY IN 1949

By B. S. TOWNROE

THE new blocks of flats and offices that have been erected in the centre of Genoa will no doubt give Mr. Bevan, the Minister of Health (now on a visit to Italy) some idea of the pace and scope of post-war building in Italy. Genoa, according to the guide book, is one of the most attractive Italian cities, owing to the beauty of its situation and the magnificence of its numerous Renaissance palaces.

In a visit this summer I was more struck by the contrasts between wealth and poverty. One new block of flats and offices in the city is reminiscent of New York, but within a few hundred yards of this magnificent new building I looked down, from the ninth storey of my hotel, upon one of the grimmest slum dwellings I have ever seen. Just below my window, on the roof of a block of tenements at least eight storeys high, had been built a shack about as large as the average pigsty to be found in an English farmyard. It cannot have been above six feet high inside, and the tenants had to bend down to enter the narrow doorway. It measured in length about nine feet, and had a depth of six feet. Outside the door, on the roof, was an open space, measuring five feet by eight feet, on which were playing three small children. In this miserable brick shed there were sleeping the father, the mother, the grandmother, and the children.

Similar contrasts are to be found in most Italian cities. For example, in Rome I stayed in a luxurious flat on Monti Parioli, surrounded by new blocks similar to some of the finest flats-de-luxe built just before the war in London. But within four hundred yards, beside the Via Flaminia, there were families living in cave dwellings.

On inquiry from the authorities I was given to understand that the reason for these contrasts is a fundamental difference in economic policy between Italy and this country. Here it was decided by the National Government during the war, at a time when the late Lord Portal was Minister of Works, that there must be a system of priorities in building after the war. On the advice of representative committees, the present system of licensing was introduced with a view to preventing unwise speculation in the immediate post-war years.

In Italy it was decided at the end of the war to give as much freedom as possible to enable the grave war losses to be made up. A Lido at Ostia was one of the first luxury buildings to be completed, and must indeed be to-day a money-spinner. In Italian cities most artistic modern cinemas have been completed within the last few months. Luxury flats are springing up like mushrooms on the Monti Parioli to the north of Rome, where the building owners sell quickly on completion in order to obtain the necessary capital for the next venture. There is a certain amount of working-class housing started by some municipalities, but commercial enterprise is, without doubt, at the head of the queue. High up, too, is ecclesiastical building—at any rate in Rome, where several beautiful and very large churches are in course of construction.

In Southern Italy.

The same contrast is to be seen in rural districts in Southern Italy. In one Lucanian town, Matera, there is a large new cinema, while many of the local residents still shelter in windowless caves. But in the heel of Italy, known as the Salento, the conditions are much better. At Lecce, for example, the main buildings constructed in the seventeenth century are certainly not squalid and are decorated with beautiful rococo designs. There are no obvious signs of poverty. In other towns in southern Italy, such as Cerignola, Candela and Foggia, the agricultural labourers crowd in at night from the surrounding countryside and sleep in congested dwellings.

In a more rapid survey in northern Italy, from Milan to the Alps, I had the impression that housing conditions were, on the whole, fair, and in some places good. The whole of the plain below the mountains is dotted to-day by modern factory buildings, recently built and well designed. In many cases there were garden villages, apparently built about the same time, for occupation by the industrial workers. There are also many blocks of working-class flats in the suburbs of the larger towns.

One unexpected form of state control affects all Italian builders. If they find any old Roman remains, when digging out the foundations, they must stop all work at once and report without delay to the local authority responsible for the protection of ancient buildings.

Building work is proceeding at a tremendous rate, for there is plenty of labour available. Unemployment is one of Italy's gravest economic problems. In many districts plenty of local stone can be bought at a low price. The hours of work are long and the Italians, always engineers at heart, make good use of various types of mechanisation in order to speed up each contract. In short, a new Italy is being built, but in the years to come the growing heritage of slums will have to be cleared.

New flats in Genoa, Italy.

SCHOLARSHIP IN ARCHITECTURE

Understanding the Process of Evolution

By Professor H. O. CORFIATO, F.R.I.B.A., F.S.A., S.A.D.G.

OF all arts, architecture is perhaps the commonest. Every stage of progress in civilisation finds its expression in some sort of building. It is an art which serves the rich as well as the poor.

Yet, it is difficult to give an exact definition to the meaning of the word. To pile bricks is not architecture. To build solidly is not architecture; it may only be the science of building. Although buildings must have structural stability, unless they have a spiritual quality and an appeal to our emotional senses they cannot qualify under the term "architecture."

It is even difficult to define art. Art may be, but not always, associated with beauty. The artist, in his work, consciously aims at certain effects which will move others to admiration or even dislike. Art is a creation aiming at the materialisation of an ideal, and if architecture is to be an art, there must be more than mere building. There must be æsthetic as well as constructional qualities and functional purpose. But art as well as beauty, being a matter of appreciation, varies according to the effects that time produces on the evolution of thought. It is obvious, therefore, that there is a close relationship between mind and building as an expression of human needs.

If scholarship may be defined as "attainment in science, art or literature, combining erudition and theoretical knowledge," this quality is necessary as a foundation for the support of a student.

Exponents of any other branch of knowledge (let us say literature) base their teaching on the study and analysis of works of reputed merit which have stood the test of time. Must we say, if we try to adopt a similar method for the teaching of architecture, that one errs and may be accused of studying archæology? Forms in architecture are certainly changing and it is only after careful analysis and understanding of the meaning of these forms that the young architect may acquire experience and develop taste.

The value of precedent, therefore, is not to be ignored, and that is why the student of architecture has to assimilate forms which, although not expressive perhaps of modern thought, are necessary to his formation.

It is not sufficient to sketch in an imitative way those themes which formed styles in the past. One has to learn these themes by retracing the same steps as their original designer. It is only thus that one acquires maturity and experience; the latter may be part of tradition.

Those who are impatient to achieve with the minimum effort always fail, and ignorance is not bliss in this case.

There are people who can write in an elegant style, giving full meaning to the value of words. There are others who can write in an ordinary and vulgar manner, making use of meaningless words.

If architecture is poetry in building, one must learn its rules and learn also how to ignore them from time to time. But one has to begin by learning. To be brief, one has to be educated and cultured. There is some prejudice attached to this word culture. The ignorant and those whose interest in architecture lies in the fact that they wish to make use of it for material purposes may accuse one of not being practical or being too academic. It is a wrong conception; going back to the accusation of being academic. The Renaissance movement, with its adoration of everything belonging to ancient Greece and Rome, divided people into educated and uneducated, those who could read Greek and Latin and those who couldn't. A classical example of class distinction.

There was a time when to be called John or Peter was unbecoming. The dilettante of the period preferred the sonorous names of Jovianus or Janus, Petreus or Pierius. A peculiar state of mentality which, however, revolutionised art.

The Humanities for many a century have influenced in a marked way the progress of architecture. Architecture finds its laws in acknowledged masterpieces and it is the study of these masterpieces that one may call "scholarship in architecture." One has to learn by analysing buildings—studying their purpose, observing the method by which this purpose was achieved and noting the final expression as a building and as a work of art. Mention should also be made of the æsthetic merits of a building. In this case, it is an analysis which often defies logic, otherwise how can one explain this mass psychosis which demands that modern architecture should only be reinforced concrete and glass? Not that one is opposed to the development of modern architecture—on the contrary—but it seems evident that attainments in modern architecture will be of a higher standard if the student, by analysing buildings of merit, acquired experience.

Each phase of artistic development has in itself the germ from which a new style will emerge. The study and understanding of this process of evolution is scholarship in architecture.

Style in Architecture.

In the past, schools of thought produced a common ideal based perhaps on tradition, the result of experience, but to this common ideal the architect submitted himself with a stern discipline in an endeavour to excel. The result was often good style in architecture. The worst architect is perhaps the fellow who says "I am right. I know what to do!" and one finds the less he knows, the more sure of himself he is. Yet a great artist like Sir Joshua Reynolds once proclaimed "The greatest genius cannot subsist on his own stock."

As in everything else, there is intellectual bias in education, and taste may be fashioned in its appreciation of beauty; but wide education and universal culture may render the architect a receptacle for emotions regardless of their source of origin, provided the architect learned the value of knowledge.

By that one means not factual knowledge, but an assimilation of method and logic for study purposes. This is important, as the quality of the new will depend upon the knowledge of the old.

We often hear how things should be done, we often hear many criticisms about buildings, but it is seldom that anybody comes forward to show, in terms of drawing, how architecture should be. One may express doubt as to a unanimous opinion on the matter. Must it be expressive, functional, original, romantic, traditional, personal, academic, picturesque, symmetrical, asymmetrical, informal, honest or contemporary, whatever this may mean?

The truth is that there is no definite rule in design. Logic and taste should be a guide, so as to avoid confusion. Both these virtues may be acquired to a great extent through study and the right training, and to that end one should not disregard the study of the old styles. Not for copy purposes, but just for the understanding of architecture because it is not possible that for centuries in the past architects erred and were wrong in building in a certain manner. Examination and analysis of the past is a sound base on which to build afresh, provided there is a clarity of thought and the knowledge whither one is directing his steps.

Each line on a drawing should be the result of an intelligent thought; this can only be the outcome of study and the question arises "what is study?" One could advise "begin with the study of Egypt." Try to understand how plastic effects were obtained with restricted means of construction. Look at Greece, and try to understand how for centuries, step by step, slowly but safely, progress led to one building, Ictinus's masterpiece. Ictinus invented nothing; he just excelled.

We should try to analyse and understand the development and evolution of mediæval art. Analyse the effects of the Renaissance intellectual movement on the arts of that period, and humbly understand the fact that because a man can put up a building it does not mean that he is an architect in the true sense of the word.

The excellence of the work of an architect depends on the degree of his culture, in other words, "scholarship"; not in a restricted meaning and applied only to strictly professional matters, but in a much wider sense which embraces limitless horizons. The student whose ambition is to learn to be an architect should first learn why certain architects were great architects and, in doing so, he should halt and reflect that there were great architects in Athens and Rome, in Mediæval France and England, and in all countries encompassed by the Renaissance. The intelligent use of scholarship framed by good taste is bound to tell, and instead of these absurdities that hesitancy brings about to-day, we may witness a revival not of historical styles, but a revival of good taste and restraint in modern architecture. Taste, however, can be acquired only through a long process, this necessitating constant contact with works of art. In the short course of a school, it is impossible to teach everything. It should be possible, however, to teach how to think, and train the student in the right method of approach to a problem.

The student should learn that simplicity is far better than tricks of skill, and observe that all masterpieces in the past denote simplicity in design and simplicity in conception, and by design one means synthesis in plan and elevation and the means of giving material existence to this synthesis through construction; and beware of cacophony in architecture. Cacophony may occur not only in music. Where cubism fails, at least in architecture, is not in its complete geometrical form, but rather in the lack of association and combination with other forms. This is synthesis. There must be in a design points of relationship or opposition to provoke appreciation.

Several æsthetic factors must combine into forming one entity. Architecture

becomes art as and when the effort to appeal to our spiritual senses is evident in a building, and enjoyed in common with others.

The skill to attain such results in design may only be acquired by study and exercise, resulting in enlightenment and imagination. In any form of learning research and investigation bear fruit, and this is more true than ever in architecture. Investigation and analysis of past buildings; investigation and analysis of present-day requirements—investigation and analysis of present-day tendencies.

As there are constant changes in literature and painting, so there are constant changes in architecture. This is inevitable progress. The fathoming of the reason for these changes, and the definition of these fundamental laws which underlie the structure of plastic forms can only be found in the study of the work of others. It is this experience which harnesses imagination into channels of practical possibility, and ultimately informs design. This is knowledge, the result of scholarship.

The Presence of Beauty.

Buildings which fulfil a utilitarian purpose may be classified as "only buildings" without pretence to architectural achievement. But if in its design there is profound belief, passion and knowledge, with boldness in conception, beauty of a certain character is bound to be present. This will derive from a balance between expression of utilitarian purpose and expression of constructional invention. To impart an impression which makes one think that a building was born and not just created is the privilege of the scholarly architect.

The insistence on function is no new theory as it had been well understood by the Greek architect in the fifth century B.C. The subordination of the design to the requirements of the programme is universally admitted. It is the subordination of the programme to illogical conceptions of construction which is to be regretted and bias may often be the result of little knowledge. Predilection for certain methods of construction which, through some sort of general mass psychosis, decrees that a church should be designed in reinforced concrete regardless of the fact that brick or stone may be more abundant, cheaper or more germane to the surrounding amenities, is only proof of vulgarity and lack of scholarship.

This is no condemnation of a church in reinforced concrete, but a regret that examples which may be fitting in other climates and countries may not be suitable under certain conditions. Travel is healthy for the artist as it stimulates imagination, provided the stimulus is restrained. To quote Bacon: "And let appear that he doth not change his country manners for those of foreign parts, but only prick in sunflowers of that he hath learned abroad into the customs of his own country." How true, even now when imitation makes architecture singularly alike, whether in Africa, Europe or America. To create true architecture it is not sufficient that a given problem should be structurally solved; it is necessary that something more, additional to æsthetic merits, should be present. Spiritual values must be present. A school of thought has come to the conclusion (and one wonders why) that to make use of possibilities of materials other than reinforced concrete and glass is to commit some sort of capital sin. A country rich in materials which have survived the test of time is rich in examples, the study of which at least shows that the suppression of the vault and arch and the imposition of the rigidity of the straight line is no proof of progress. As a matter of fact a curve is a natural attribute to beauty. Substitute materials such as facing skins to conceal reinforced concrete result in a lack of that primordial quality—monumentality.

The Only Road?

Is it possible that this trend of architecture, now universal notwithstanding differences in climate, traditions, materials, environment, is the only road to salvation? Is this a quest for originality merging into eccentricity through lack of scholarship, or is one to assume that civilisation is universal and amorphous, resulting in a standardised architecture? And how can civilisation become universal when cooking, not to mention drinking, is different in every country? The neglect of study of what has made present life possible, the ignorance of what has been bequeathed to us has resulted in the loss of a great quality — individuality — and modern

GEORGIAN HOUSES, CLIFTON. The fate of several of Clifton's finest Georgian houses is now under consideration by Bristol Corporation. So many are being converted to office use that the long-term proposal is that these now unsuitable houses should be pulled down and replaced by modern high-quality residences. The view shows Clifton Down-road, at the top of the well-known Promenade. The further building (No. 6, "Dorset House") has been offices for the Electricity Authority since 1940. Further along the Promenade is Cote House, to be used as a training college by the Midland Bank.

architecture runs the risk of sinking into a recipe hash through lack of knowledge or through misconception and prejudice, in other words, lack of scholarship and culture.

Four thousand years of architecture have almost exhausted all possibilities or moves in design, yet the introduction of steel and reinforced concrete have not yet achieved what has been hoped for. When steel was used in building, nobody thought it was a substitute for stone or brick. Steel was kept separate, although found in the same composition. Nowadays reinforced concrete seems to act as a repellant to other materials. Cohabitation in harmony should, however, be possible with some adjustment.

The knowledge of effects in plan and elevation can only be acquired by study and analysis of precedent and exercises demanding a severe mental discipline. Wren, Chambers and Robert Adam made use of previous themes to achieve personal effects. The distinction between copyism or plagiarism is a subtle one. For study purposes the knowledge of previous form is essential. The benefit to be derived from such knowledge is invaluable only if complemented by a natural invention, a remarkable example of which the Renaissance provides—a performance of individuals, based on a special culture.

BOOK REVIEWS

THE HISTORY OF ARCHITECTURE: (Britannica Home Reading Guide. Encyclopædia Britannica.) 5s. net.

THIS well-printed booklet of 20 large quarto pages is one of a series of Home Reading Guides. It may not often happen that either an architectural student or a general reader will begin his study of architecture from an encyclopaedia; but, if he does, this booklet will doubtless help him in his quest. It is clearly written, with few misleading or obscure passages, and serves as a reasonable introduction to architectural history.

There are, however, some points of detail that might well be revised in a second edition. For example, Chaldea is mentioned on p. 2 without any explanation as to what Chaldean architecture is, but Sumerians and Hittites are not mentioned at all. It is exaggeration to say (p. 4) that "the arch and vault began to be freely used by the Greeks." On the same page, the term "engaged column" is not explained. On p. 6, Venice, as well as Ravenna, should be cited as a centre of Byzantine architecture.

On p. 9 the statement that "in Italy the Renaissance was never an established and defined style" is certainly misleading. The great baroque churches of South Germany, Austria and Switzerland should be added to the mention of baroque palaces on p. 9; and Vanbrugh should be named as an exponent of baroque architecture in England. Among the architects listed on p. 10, J. H. Mansart should appear beside his kinsman François.

The 19th century could better be described as a period of architectural "confusion" than of "stagnation" (p. 11); and some readers will not understand what "solar houses" are (p. 12). Among architects of the 19th-20th centuries, one would expect to find mention of C. R. Mackintosh and C. F. A. Voysey; also perhaps of Aston Webb, Waterhouse, and Street; while the marked preference shown for English Tudor Gothic in the design of modern American university buildings might have been noted on p. 14. The section on "Oriental Architecture" (p. 15) fails to recognise that Egypt contains some of the finest Muslim buildings, and those in stone: buildings which have had an influence on European architecture as a result of the Crusades.

As for the innumerable references to the Encyclopaedia, it seems to be a defect in the editorial arrangement of that famous work rather than the fault of the compiler of this "reading guide" that the main or primary references to, say, "Greek Architecture," include three separate sources for that subject: "Vol. 2, ARCHITECTURE: section Greek Architecture; Vol 10, GREEK ARCHITECTURE; also paragraph on Architecture in article GREEK ART."

The weakest part of the booklet is the somewhat slovenly bibliography at the end. Apart from the fortuitous and, in some cases, inexplicable inclusion or omission of certain books, there are many slips, which should certainly be amended, in the individual entries of those selected. Dates of publication, prices if now on sale, and number of volumes should be stated. The author of "The Gothic Revival," here featured as "Clarke," is Sir K. Clark. The works of Bond and Gotch are incorrectly listed, Dr. N. Pevsner deserves an initial, "Bagenal" is wrongly spelt, and so on.

M. S. B.

DUBLIN. By John Harvey. (London: B. T. Batsford, Ltd.) Price 15s. net.

MR. JOHN HARVEY, having made something of a literary reputation with books on mediaeval subjects—"Gothic England," "Henry Yevele," and "The Plantagenets"—has now jumped forward a few centuries with a stimulating and provocative book on 18th-century Dublin. He is well qualified for the task for, as he records, he was taken to Ireland by his parents in his early years and surrounded with Irish friends. Clearly under the spell of Dublin and its people, he communicates vividly the pleasure and excitement that his experiences have brought him. He surveys briefly, and on the whole impartially, the chequered course of Irish history and, greatly daring, skirmishes about in the field of politics. Here, however, he is not quite so impartial or successful. One example of his somewhat unrealistic outlook may be quoted. He claims that as a result of the neutrality of Eire in the recent war ("maintained by a heroic determination grounded in Faith") "Dublin at the present moment holds in its hands the future of European thought and the European way of life." If this is so, it is quite certain that it would have been otherwise had this country been conquered by Hitler. And, oddly enough, Mr. Harvey makes no mention of the great number of Eirean citizens who came to our aid—a practical demonstration of sympathy and friendship that will never be forgotten on this side of St. George's Channel.

Politics apart, there can be little but praise for Mr. Harvey's book. The author knows his Dublin intimately and loves it and its buoyant inhabitants. Though there is a chapter in the form of an epilogue on Early Dublin, the book is essentially an appreciation of the Georgian city which, unlike London, has preserved its 18th-century character almost intact and unspoiled, though the degeneration of so much of the residential area into slums is to be deplored. One odd thing that will strike the reader of this book is the author's inability to praise 18th-century Dublin without disparaging 18th-century London. For example: "Undoubtedly one of the chief reasons for the success of Dublin's 18th-century street architecture is that it was largely designed, not by amateurs at drawing boards, but by masons, bricklayers and carpenters with a solid background of technical knowledge. Thus Dublin was able to carry onwards the impression of genuineness often absent from London work of the same period." Mr. Harvey must have forgotten that much of London's 18th-century streets and squares was the work of tradesmen, who were certainly not lacking in "a solid background of technical knowledge." Some of the best-known architects of the period began as craftsmen; and as to "amateurs at drawing boards," one would hardly describe the prolific Brothers Adam, and indeed very few other 18th-century architects as such! And if comparisons must be drawn it is necessary to emphasise (what, indeed, the author himself records) that many of Dublin's finest buildings were designed by architects from this country—Gandon, Cooley and Johnston.

It would, however, be misleading to leave the impression that this book is unduly controversial, for in the main it is a scholarly and illuminating study of Dublin, its environs, and to some extent, its people, which will delight all who already know the city and fill all those who do not with an urge to go there without delay. It is profusely illustrated by reproductions of photographs and of old paintings, prints and engravings.

G. J. H.

THE TECHNIQUE OF BUILDING. By E. G. Warland. (The English Universities Press, Ltd.) Price 21s.

ALTHOUGH this book is intended mainly for the assistance of students of modern building, and its object is to place at their disposal such a comprehensive exposition of the subject as will meet the requirements of examining bodies of professional institutions where building construction is an essential subject, it will, nevertheless, be of considerable value also to those already practising as architects, surveyors, builders and technicians.

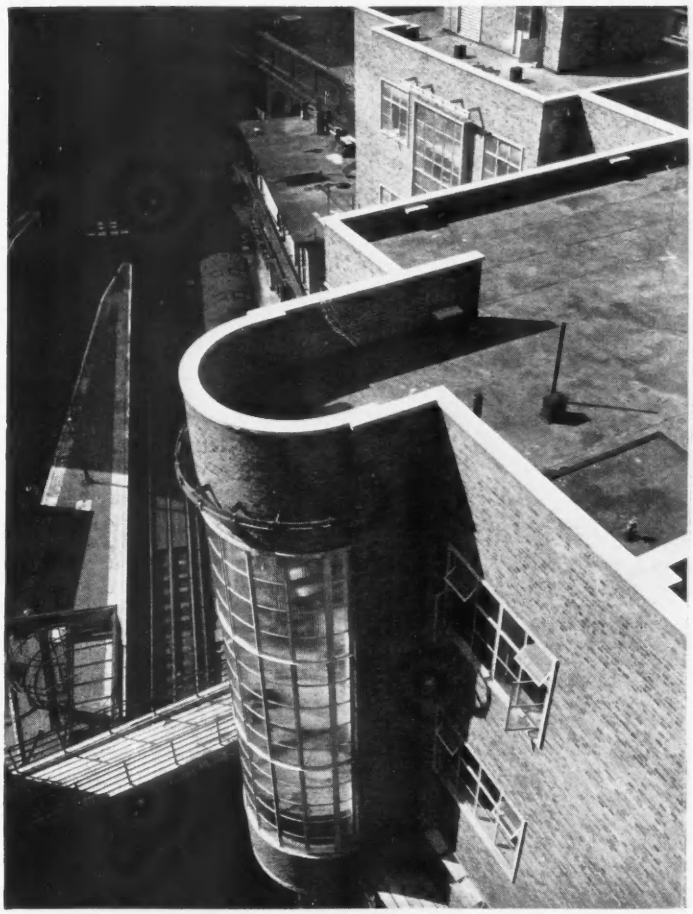
To the student it is a text-book from which he can learn the technique of building, though to those more experienced in this subject its main use is to afford a guide for general reference.

Methods of building construction of all kinds, involving not only those of a traditional character but also those resulting from the introduction of modern materials, are described with excellent simplicity and with the aid of plentiful and painstaking illustration. It must, however, be realised that it is not intended to serve as a complete architectural treatise, for little reference is made to calculative or dimensional considerations, although many essential and basic values are quoted. The main emphasis is on form and general constructional requirements of a vast variety of building details.

Commencing with trench excavation and foundation work, the author proceeds in logical sequence to retaining and other walls, floors, window and door openings, roofs, chimneys and flues and finishes with drainage and plumbing. In addition, the reader will find valuable help in all the many adjuncts of this main theme.

R. S. D.

*** *Books reviewed in these columns may be obtained on application to the Publisher, "The Builder," 4, Catherine-street, Aldwych, W.C.2 Cash should accompany the order.*

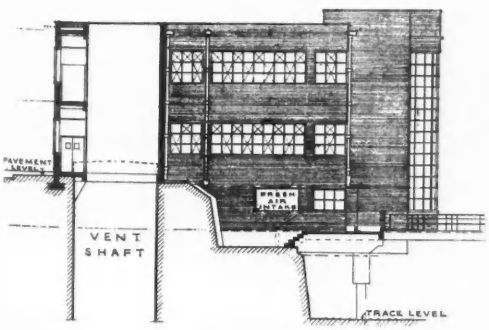


View of staircase tower from above. *Below*: **Section A—A.**

A NETWORK of 178 canteens is spread over the London Transport area of 2,000 square miles. The transport system is growing, and as it grows so new canteens are needed. They are planned in great detail and to high standards. Rooms for staff recreation are attached to most canteens. They are well lighted and ventilated and attractively decorated. The canteens are not run to make a profit. The aim is a balanced budget showing neither deficit nor surplus. London Transport has long recognised that an efficient canteen service is more than merely a useful addition to staff welfare—it is an integral part of the undertaking, an essential contribution to the good health of a large proportion of the hundred thousand members of the staff.

The Canteen and Training Centre at Baker-street has been built in order to maintain good and efficient catering. It is believed to be the first of its kind run by an industrial organisation. Here, in ideal working conditions, staff under instruction will be trained in all branches of canteen catering, as well as being taught food regulations and how to compile the necessary records. The Centre incorporates an up-to-the-minute canteen for railway and other staff, which will give trainees valuable experience under normal working conditions, and provides a ready use for the food prepared in the Centre. The courses are run by a chief instructor and four assistant instructors. In all courses lectures are included that give certain background knowledge, such as the traditions and organisation of London Transport, the function of the Welfare Department, the canteen system, conditions of service, wages, hygiene, first-aid and fire precautions. Courses vary in length from one to eight weeks. Refresher courses are given for canteen staff recruited during the war and evening classes in cookery are run for junior members of London Transport's staff.

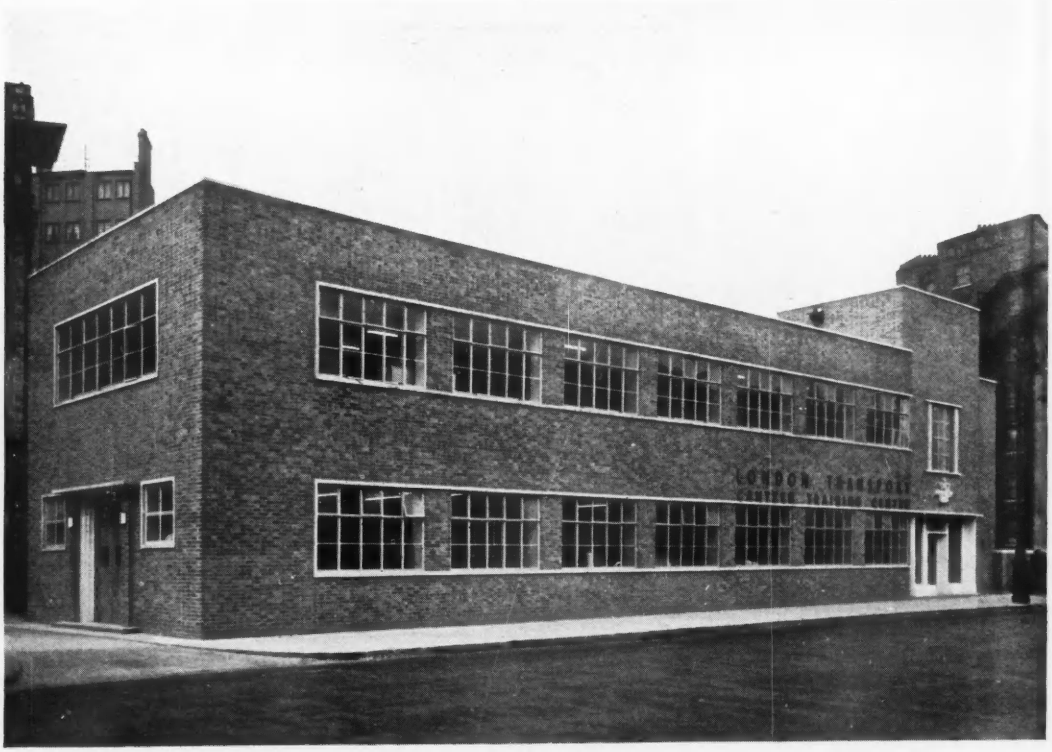
THE SITE. The site at Baker-street was chosen because it is in a central position and at the same time is near an important inter-change station, where a canteen is needed. This site, which slopes down to a retaining wall beside the Metropolitan Line, has a difficult shape and is limited in size; there were other



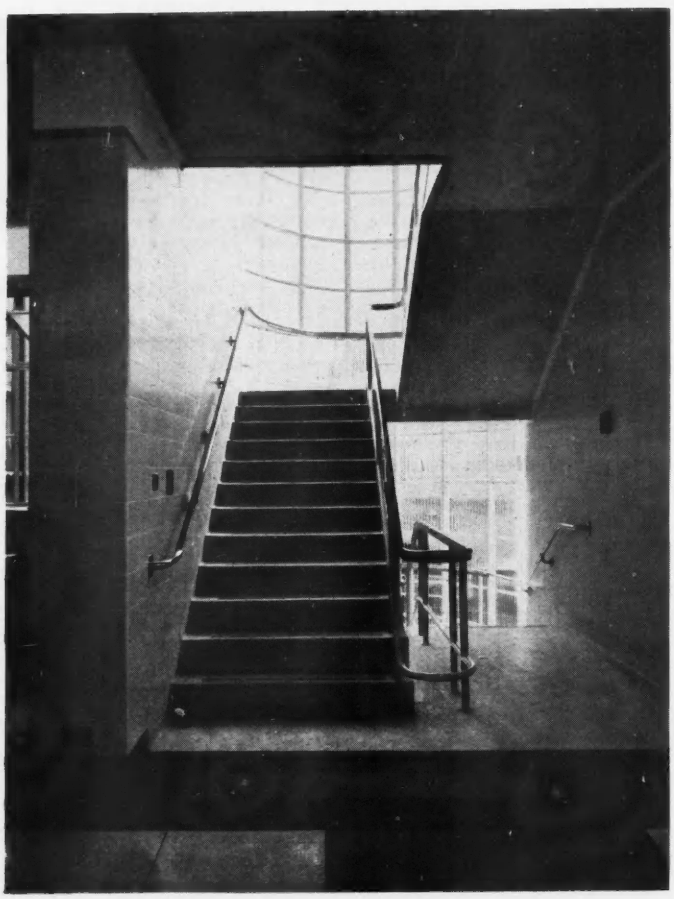
CANTEEN AND TRAINING CENTRE, BAKER STREET,

for London Transport Executive

THOMAS BILBOW, F.R.I.B.A., Architect to the Executive. C. S. BOUGHTON, L.R.I.B.A., Principal Assistant Architect (Road Services)



View from Allsop-place. *Below*: **Staircase at street level.**



problems of construction to be overcome which are mentioned later.

THE PLAN. It was nevertheless considered that the advantages of position outweighed the drawbacks of the expensive foundations and other constructional work involved. Plans were drawn up for the canteen to be placed at street level, with access from the passenger footbridge in Baker-street Station, and for the training centre to be built on the first floor with access from Allsop-place. Additional floor space has been secured by cantilevering part of the building in the rear over the railway beneath.

Basement. Railway staff using the canteen enter the building from the bridge at basement level, where lavatories are provided near to the entrance hall. The basement also contains the heating and most of the ventilation plant and the main electrical switchroom.

Ground Floor. The main entrance is from Allsop-place. Just inside are the instructors' offices, changing room and lavatories and a waiting room for the staff attending interviews. A service entrance for staff and for the delivery of food in bulk is in the forecourt of the Baker-street offices, and an electric hoist is provided for lifting goods to the training centre on the first floor. Next to the staff canteen, which seats 150 people and occupies most of the ground floor, is the kitchen; a steward's office, kitchen staff room, and dry and cold store-rooms are adjoining. The service counter is of London Trans-

port's novel design, and food on sale is hygienically displayed behind glass.

First Floor. The training centre occupies this floor. It is in two main divisions—the general demonstration kitchen with adjoining classrooms and the pastry demonstration kitchen, also with classroom. Thus, both theoretical and practical training can be given in the same place. Sliding doors have been put between each classroom and the corridor which separates them, so that both classrooms and the corridor can be used as a single unit if needed for special lectures.

CONSTRUCTION. The building is steel-framed throughout, and provision has been made for the addition of another storey, if this should become necessary. The escalator shaft leading to the Bakerloo Line lies close to the surface of the site. This has had to be bridged with girders bearing on piled foundations.

The ventilating shaft from the tube tunnels also on the site has been extended through the new building. The extension is designed as an independent structure to avoid the possibility of noise from the tube being carried through the framework.

HEATING AND VENTILATING INSTALLATION. Heating throughout the building is provided by a hot-water system built into the ceilings. Steam is supplied from the boiler house at Chiltern-court. When it enters the canteen and training centre, the steam heats water which is pumped round through pipes embedded in the plaster. The ceilings thus become large radiators. This was arranged not only for reasons of efficiency but to avoid taking up valuable floor space with radiators —an important consideration in view of the restricted building area.

All heating is controlled automatically by thermostats so that a constant temperature is maintained whatever the conditions outside. In the main canteen several areas are each independently controlled in order to keep an even temperature.

Detail of entrance front, Allsop-place.

This results in the greatest economy of fuel.

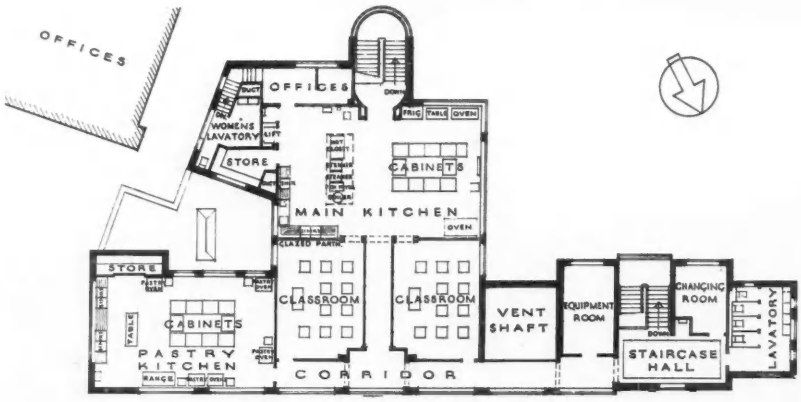
The ventilating system, like the heating installation, is built into the ceilings. A filtered supply of fresh air is introduced at several points by fan and warmed over hot pipes. It is spread widely inside the buildings by diffusing nozzles in the ceilings. Stale air is similarly extracted and particular attention has been given to the areas round the cooking equipment. In the canteen the air is changed ten times each hour, and in the main kitchen it can be changed between ten and forty times each hour as required.

All heat and ventilation machinery is controlled from a panel in the basement. Here the temperatures in different parts of the building can be seen. It is also possible to set the temperature level of the training school separately, so that a saving in fuel can be achieved when the top floor is not in use. The main ventilation plant is situated in the basement, but for convenience and efficiency two small ventilation chambers have also been built at roof level. A total of 10,000 cubic feet of fresh air is supplied every minute.

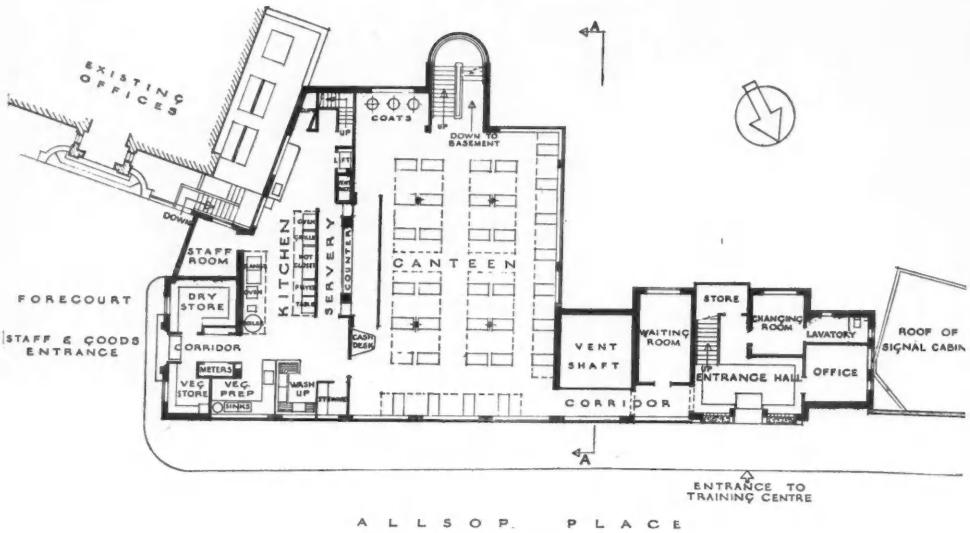
LIGHTING. Nearly all the lighting is fluorescent, with half the number of tubes "warm white" and the other half "natural."

FINISHINGS. The aim has been to use hygienic and hard-wearing

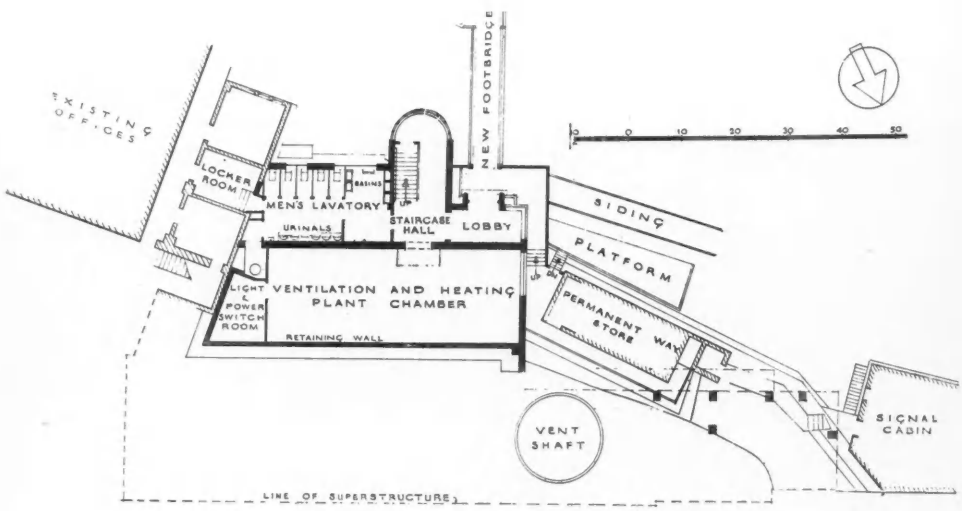
The sculptured figure over the Allsop-place entrance to the training centre. Bainbridge Copnall, F.R.B.S., Sculptor.



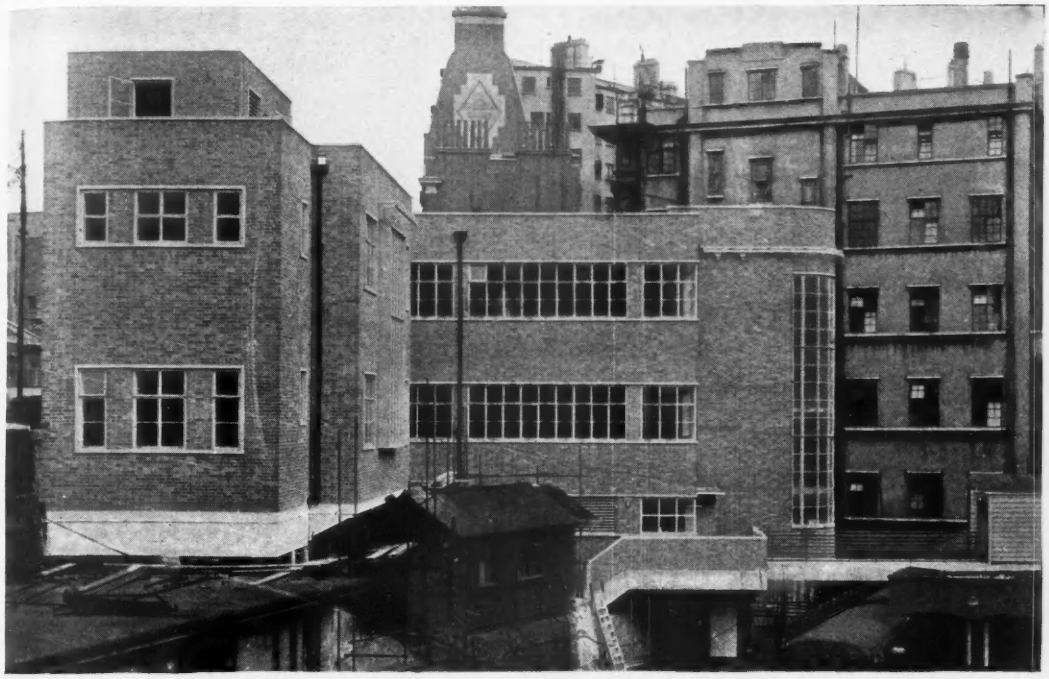
First-floor plan.



Plan at street level.



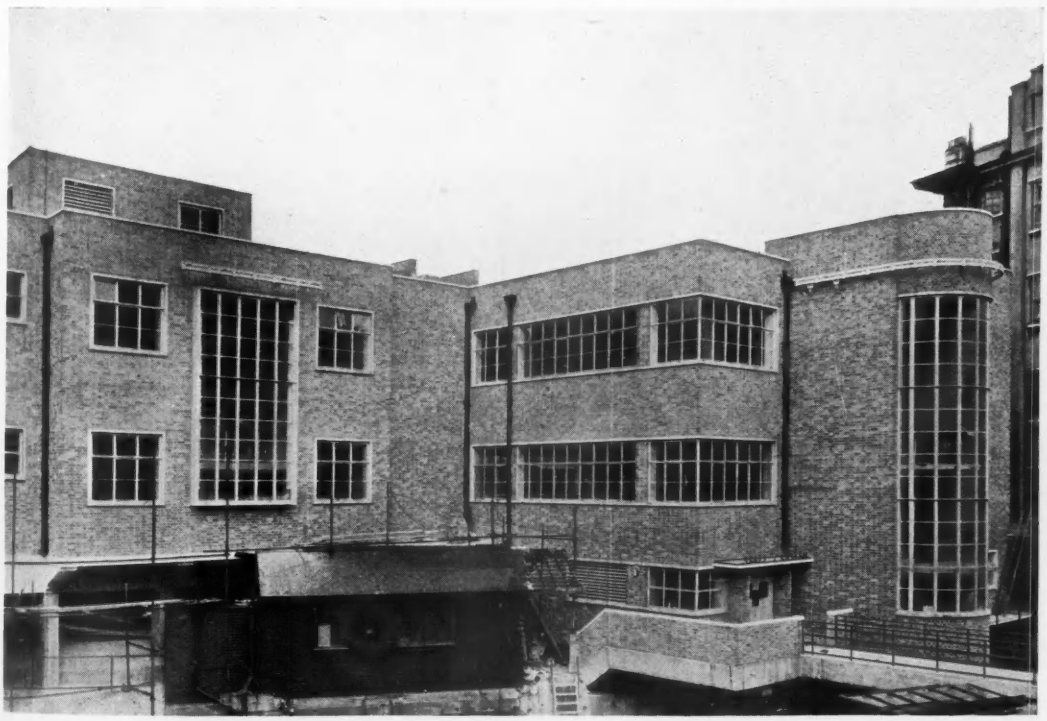
Basement plan.



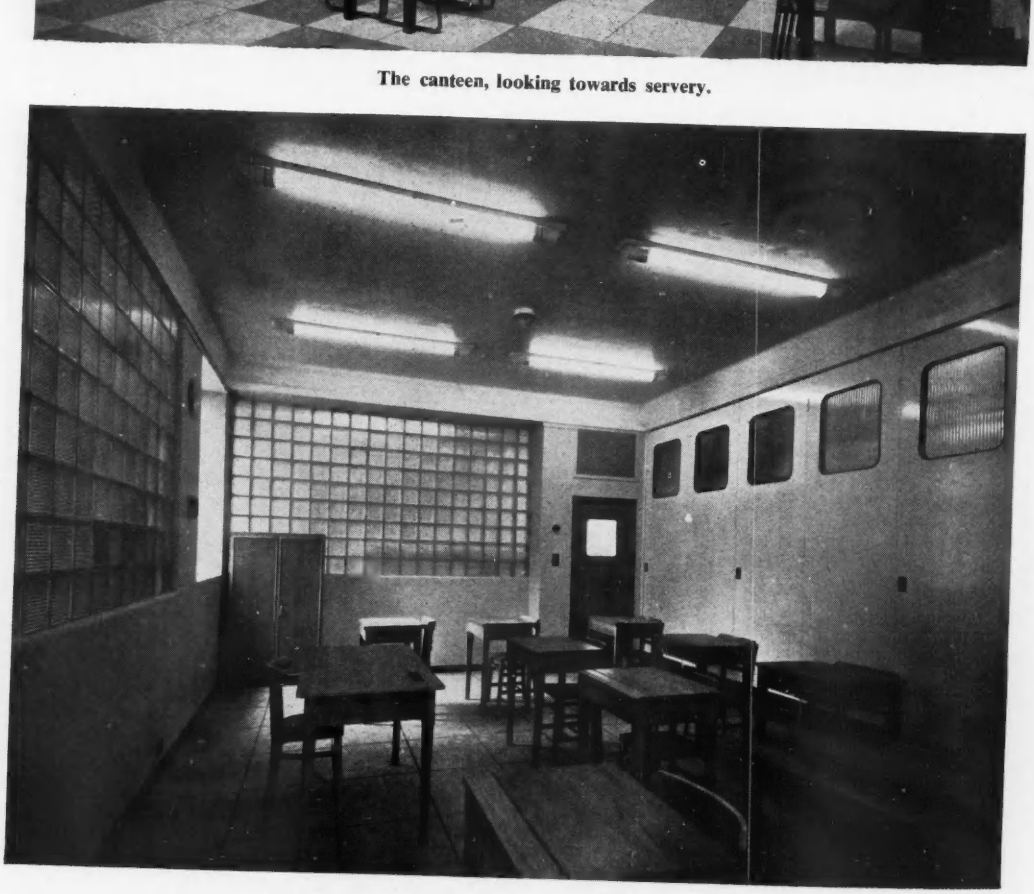
View from west. *Below*: **View from south-west.**

materials. Floors in the kitchens are laid with buff terrazzo, and in the dining room with a pattern of two shades of green terrazzo. Green terrazzo is also used for the walls of the staircase leading from the ground floor to the training centre. The canteen walls are finished with tiling, and the three kitchens have been tiled with cream glazed tiling with a yellow capping. The classrooms and corridor are laid with linoleum in buff squares with black borders.

EQUIPMENT. The building contains two classrooms, a general kitchen and a pastry-making kitchen. Each is designed to hold comfortably a dozen students at once. The greatest use is made of natural light by means of large



The canteen, looking towards servery.



A classroom (first floor).

windows and glass bricks. This good lighting, with the high standards of ventilation and heating, ensures the best possible conditions for the trainees' work.

All the kitchen equipment, except the potato-peeling machines, is finished in cream vitreous enamel, chromium plate and stainless steel. Heavy spun aluminium ware has been chosen for the standard cooking vessel. Preparation benches are all mounted on tubular metal frames and tubular steel framed stacking chairs are supplied for the canteen dining room. A special feature is the steam-heated serving counter in the canteen, where freshly cooked food can be displayed under glass and kept hot. The counter is designed for a speedy service, run on the cafeteria system.

In both training kitchens, a cabinet with a working top, storage accommodation for utensils, a removable flour bin and a folding stool are available for each student. In the pastry kitchen separate ovens are provided for the individual control of the pupils. The main kitchen is fitted with the standard equipment now in use in London Transport canteens. Also, a sample store which contains specimens of all the current types of utensils has been installed for the purpose of checking future designs and quality. The practical training in the use of various kinds of equipment ensures that students will be fully experienced when they have passed out and are posted to canteens.

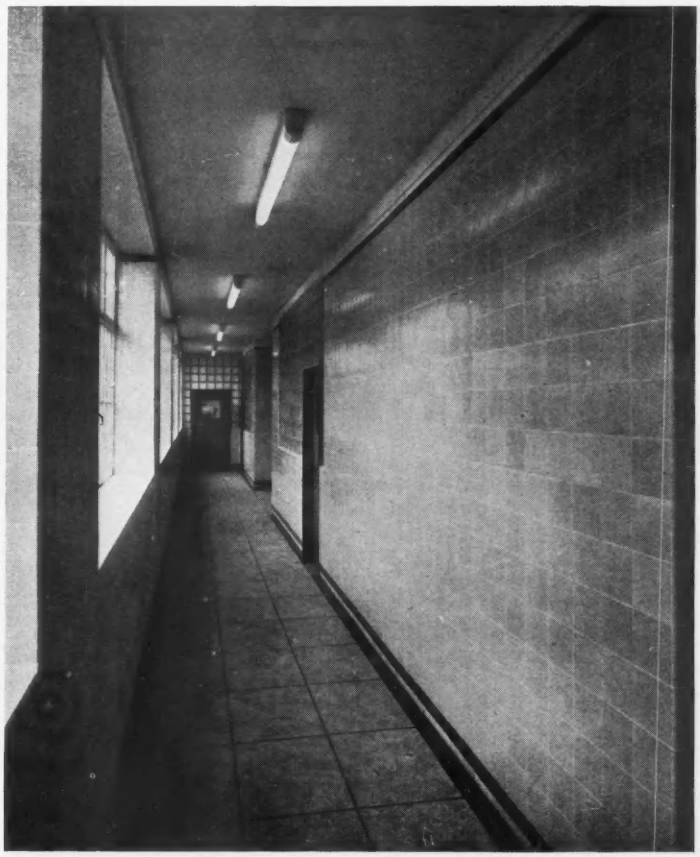
The sculptured panel over the entrance to the training centre was executed by Mr. Bainbridge Copnall. This sculpture symbolises female service in the preparation of food.

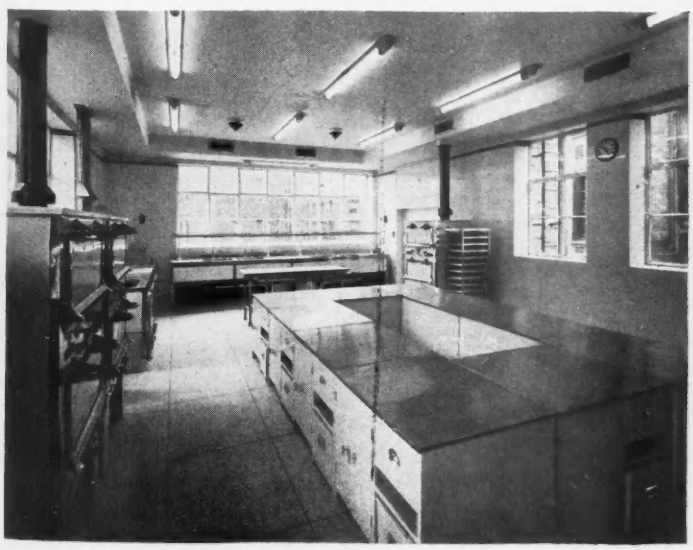
Mr. Thomas Bilbow, F.R.I.B.A., is Architect to London Transport Executive. In this work, Mr. C. S. Boughton, L.R.I.B.A., Principal Assistant Architect (Road Services), was assisted by Mr. J. R. Russell, L.R.I.B.A., and Mr. H. F. Willoughby, L.R.I.B.A.

Mr. H. S. Gordon (Welfare Officer) outlined the requirements of the building, and was responsible for the layout of the kitchen equipment.

The structural engineer was Mr. A. V. Bond, A.M.I.Struct.E., assisted by Mr. A. McBeth, A.M.I.Struct.E. The heating and ventilating engineer was Mr. S. C. Mount, M.I.H.V.E., assisted by Mr. J. Read, B.Sc. Lighting was designed by Mr. R. Dell, Executive Signal Engineer.

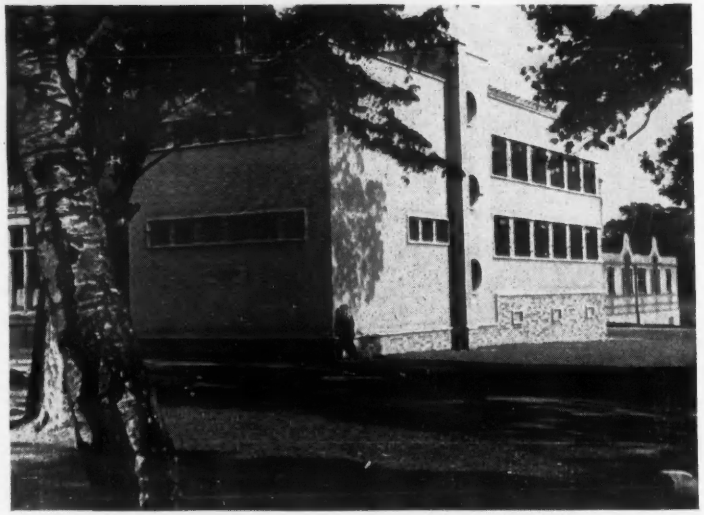
The general contractors were Messrs. Charles Booth and Son, Hamilton House, Bidborough-street, W.C.1; sub-contractors and suppliers were: Tiling, Carter and Co.; terrazzo work, Mosaic and Terrazzo Co.; folding sliding doors, D. Burkle and Son, Ltd.; linoleum floors, Cellulin Flooring Co.; heating and ventilating installations, Richard Crittall and Co., Ltd.; kitchen equipment, Crittall's Kitchen Equipment Co.; goods lift, W. M. Wadsworth and Sons, Ltd.; steelwork, Moreland Hayne; piling, Pressure Piling Co., Ltd.; and floors, Concrete, Ltd.





Corridor at first floor. *Below*: **Pastry kitchen.**

CANTEEN AND TRAINING CENTRE, BAKER-STREET, FOR LONDON TRANSPORT



MEMORIAL WING AT MASONIC BOYS' SCHOOL, DUBLIN

McDONNELL AND DIXON, ARCHITECTS

THE problem here was to provide new accommodation for staff and baths for boys in proper relation to existing buildings. The planning was started in 1939 and was therefore influenced at an early stage by conditions prevailing at the beginning of the war. The building has been erected as a memorial to the late James Moore, former Headmaster of the school.

APPROACH: Unsatisfactory attempts to add to and alter the existing accommodation rapidly indicated that an entirely new block was the proper solution. As the existing buildings had been built at various times in the current manner of each period there were no set requirements regarding the exterior of the building.

SOLUTION: Owing to the height of the existing building to which the new block is joined, it was possible to accommodate a mezzanine floor but as this could not be made directly accessible it was conveniently allocated to the female staff, the masters being placed at approximately dormitory levels above and below on which floors the boys' bathing accommodation was also provided. The effect of the war was to necessitate an air raid shelter, which utilised the levels of the site, and to render the completion of the whole of the building impossible. The scheme was therefore divided into two sections, of which the first was carried out immediately, all the essential materials being ordered, delivered to the site and paid for during the course of design and before tenders were invited.

CONSTRUCTION: Reinforced concrete strip foundations; concrete block walling in gauged mortar finished in gauged plaster and fine dashing outside and gypsum plaster inside; reinforced concrete slab floors and roof; linoleum finish to rooms; terrazzo to corridors and staircase and coloured asphalt to sanitary accommodation; asphalt finish to roof; steel sash windows; flush hardwood faced doors; bronze furniture; finial and memorial plaque.

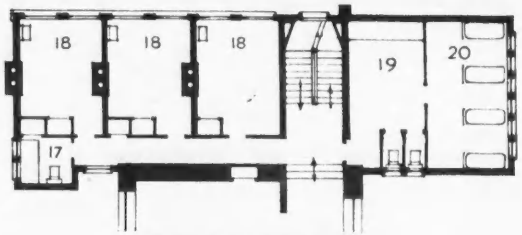
KEY TO PLANS

SECOND FLOOR: 17 Masters' bathroom. 18 Masters' bedrooms. 19 Lavatory. 20 Boys' bathroom.

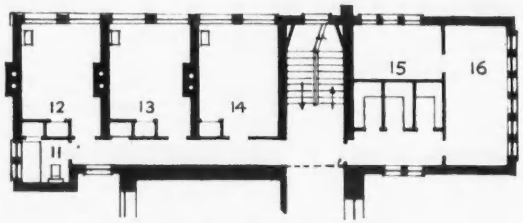
MEZZANINE: 11 Ladies' bathroom. 12 Housekeeper's room. 13 Matron's bedroom. 14 Lady teacher's room. 15 Serving-room. 16 Clothes store.

FIRST FLOOR: 6 Masters' bathroom. 7 Masters' bedrooms. 8 Visitors' room. 9 Boys' lavatory. 10 Boys' bathroom.

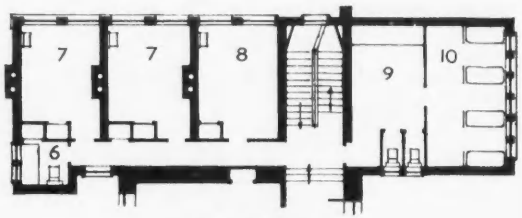
GROUND FLOOR: 1 Housekeeper's sitting-room. 2 Matron's sitting-room. 3 Lady teacher's sitting-room. 4 Dispensary. 5 Boys' contoom.



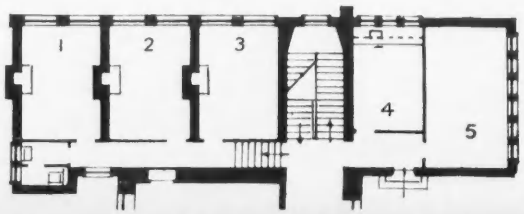
Second-floor plan (future).



Mezzanine-floor plan (future).



First-floor plan.



Ground-floor plan.

1949

Ground-floor plan.

Dispensary. 5 Boys' cosstroom.

the current manner of each period there Dispensary. 's boys' coatroom.

CORRESPONDENCE

A.B.T. and the Clerks of Works Diploma

TO THE EDITOR OF *The Builder*.

SIR,—A letter from the Secretary of the Institute of Clerks of Works of Great Britain, which was published recently in the Press, calling attention to the qualifying examinations held by his Institute, has reminded me of correspondence which I had with the Association of Building Technicians early in the year, and to which attention might now be drawn.

In February, I received a circular from the A.B.T. headed "Clerks of Works Diploma," the first paragraph of which reads: "The Association of Building Technicians has for some time been aware of the desirability of establishing recognised standards of technical qualifications for Clerks of Works, and with this in mind has arranged to hold an examination for Clerks of Works and to award a Diploma to those who qualify."

On reading this, I wrote to the Secretary of the Institute of Clerks of Works and asked whether his Institute was still holding its qualifying examinations. The reply I received was that they commenced their examinations in 1936, and were holding them annually until the outbreak of war, and that during the war period, at the invitation of the architects and under the auspices of the Red Cross, they held them for prisoners of war in the various camps in Germany, resuming them at their headquarters at the R.I.B.A. in 1944, and are now holding them in the Spring and Autumn of each year.

It would therefore appear from the above that the A.B.T. was either in ignorance of the examinations of the Institute of Clerks of Works or has knowingly "gate-crashed" on the activities of an older Institution, and one which was formed and maintained by clerks of works solely for the benefit of that branch of the profession.

I thereupon wrote to the A.B.T. drawing its attention to these facts, and asking for its observations thereon. Their reply was to admit a knowledge of the examinations of the Institute of Clerks of Works and to attempt to justify this new activity of theirs by stating: "We feel that, as an organisation having in membership what we believe to be the largest single body of clerks of works in the country, we are in a position to encourage a far greater number of clerks of works to undertake the necessary technical training in an effort to achieve recognised standards."

I then asked the Secretary of the A.B.T. to furnish me with a list of its members (in order to ascertain whether or not his statement as to the numbers of clerks of works in his Association was fully justified). He replied that, as a registered Trade Union, the list of members is private, and that he was unable to comply with my request.

I then asked of the Secretary to be furnished with the numbers of clerks of works and others in their Association. He replied that it is not the practice of Trade Unions to furnish such membership figures.

I then wrote to two prominent Trade Union officials asking if this was so, and they informed me that although Trade Unions did not "normally" disclose the names or a "breakdown" of membership there were occasions when this information had been given.

The above correspondence obviously speaks for itself and needs no further comment.

SIDNEY LOWETH.

Kent.

Labour Output Constants and Targets

TO THE EDITOR OF *The Builder*.

SIR,—In connection with the Interim Explanatory Memorandum on the Application of Incentive Payments to Building Work, here is another point upon which an expression of views by the Committee would appear to be very desirable.

LABOUR OUTPUT CONSTANTS AND TARGETS.—In para. 5 we have: ". . . The most satisfactory basis for fixing such output allowances is by assessing the average time taken under normal circumstances by the average operative (neither the quickest nor the slowest). . . . These allowances, once assessed, provide . . . estimated standard times, and . . . would come to be . . . labour output constants." Thus: average time = standard time = labour constant.

The Agreement of October, 1947, states the incentive basis as ". . . Giving an operative of average ability and capacity a reasonable opportunity to achieve on such work earnings 20 per cent. higher than those yielded by the normal prescribed rate."

In para. 8 we have: " . . . It is suggested that a bonus distribution of 50 per cent. of the difference between 'target' and actual cost should be generally adopted throughout the industry in conjunction with the fixing of labour output constants (as outlined in para. 5) on the basis of average output before the operation of incentive systems." From the footnote to para. 7, it would appear that the Committee target for a 50 per cent. distribution is in fact the average output.

Thus the average/standard/constant referred to in para. 5 as envisaged by the Committee must be 40 per cent. greater than the optimum capacity of the average operative. Otherwise he is not given the opportunity to earn 20 per cent. higher earnings (50 per cent. of 40 per cent.).

If the reasoning is sound, it would surely have been better for the Committee to recommend labour output constants at optimum level so that the adjustment of optimum to target to satisfy varying methods of distribution would be accomplished simply, thus:—

	Optimum constant plus
Target time on 50/50 sharing	= 40.0 per cent.
" " " 60/40 "	= 33.3 "
" " " 66.6/33.3 "	= 30.0 "
" " " 75/25 "	= 26.6 "
" " " 80/20 "	= 25.0 "
" " " 100/— "	= 20.0 "

The concluding words of para. 8, referring to the 50/50 apportionment of time saved, are: "This is the method most generally satisfying and easiest to operate." No doubt there are good reasons to support this conclusion, but it would have been more convincing if the reasons had been set out in the memorandum. A 100 per cent. distribution of time saved is, in my experience, desirable and by far the easiest to operate. Any departure from this—any perpetuation of the rather old-fashioned premium bonus—needs justification.

Target setting for a 100 per cent. distribution of time saved gives the most effective control of labour cost—for all performances better than target, labour cost is constant.

G. J. MACMILLAN.

Crawley, Sussex.

Tea Breaks: Cost and Value

TO THE EDITOR OF *The Builder*.

SIR,—At the recent R.I.B.A. Conference at Nottingham, Mr. T. Cecil Howitt, dealing with building costs, said that on building sites it was customary to have two breaks for tea, and it had been calculated that the cost of this amounted to £20 a house.

Over a period of years the Tea Bureau has devoted much time and research to the problems attending "tea in industry." Our experience has convinced us that the benefits which accrue from an efficient tea service to the industrial workers more than compensate for any loss of working time involved. While that is a computable figure, as demonstrated by Mr. Howitt, the value of a contented labour force is inestimable.

Moreover, careful organisation of the tea breaks and tea service can reduce the time loss to an absolute minimum, while ensuring that the service is the best possible. Much of the bureau's work is concerned with this very practical aspect of industrial relations and the experience and assistance of our specialist staff is at the service of any builder or contractor who cares to call upon it.

R. L. BARNES,
Commissioner, the Tea Bureau.
22, Regent-street, S.W.1.

The Measurement of Natural Lighting

TO THE EDITOR OF *The Builder*.

SIR,—May I be allowed to correct the suggestion in Mr. Allen's letter in your issue of July 22, to the effect that I had lost faith in the diagram correcting for the loss of daylight through clear, clean, window glass.

The diagram served the purpose and is now obsolete. What I objected to was the obvious error involved in correcting one of two factors which tend, mutually, to cancel each other.

I am grateful for Mr. Allen's suggestion, made two years ago, that the simple form of diagram in common use should be made available over the counter. It has led to a forthcoming publication by Messrs. Batsford, but it is no easy matter to get a new technical booklet before the public.

It is nearly a year since a most serious criticism was published in *The Builder* of the methods officially recommended for computing the permissible obstruction to light presented by rebuilt war-damaged urban premises. Nominally, this is restricted to that presented by the equivalent of a row of suburban dwellings.

It was pointed out, however, that the "height indicators" officially recommended legalised in some cases the obstruction which they were intended to prevent.

PERCY J. WALDRAM.

Edgware, Middx.

OFFICIAL NOTIFICATION

Hardwoods from French Africa.

The Board of Trade announce that hardwoods, except okoume logs, can now be imported from Gaboon (French Africa). Timber Control have accordingly amended Table Appendix "A" of the Hardwood Overseas Procurement Scheme Part III.

Memorial to Sir Herbert Baker.

The execution of plans drawn up before his death by Sir Herbert Baker, R.A., for restoring the original marble mensa slab at Cobham Church, Kent, is the object of an appeal for funds by the churchwardens. This restoration will be a memorial to Sir Herbert.

LONDON TRANSPORT PLANS

New Tube and Garage Projects

NEWS of important London Transport projects on hand were given by the Chairman, LORD LATHAM, on July 27.

"While the Government is considering the big schemes of the London Plan Working Party for new tubes," Lord Latham said, "we are pressing ahead with other works to help travellers.

"We shall start on the construction of the extension of the Bakerloo line from the Elephant and Castle to Camberwell in January next year. The first step will be to sink working shafts at five points en route which will be located as follows: at Elephant and Castle near the beginning of Walworth-road, near Camberwell Gate, opposite Blucher-road in Camberwell-road, and north and south of Camberwell Green. From these points our tunnelling plant will be taken underground and the boring of the mile-and-a-half twin running tunnels, the station tunnels and crossovers will be done in twelve sections. The underground tunnelling itself will start in February or March, and it will take two years to complete. About fifteen months after that—early in 1953—we hope that the tube should be running.

"Over 500 men, tunnellers and others, will be working on the job and the work of building this new tube will entail the excavation of over 150,000 tons of earth. The terminal station, which will have three platforms, will be entirely beneath the ground, at Camberwell Green, with escalators and staircases to ground level. Although this will necessarily mean that temporary works buildings will be on the Green, Camberwell residents may be assured these will be removed and the Green will be practically indistinguishable from its previous state when the works have been completed. We are also in consultation with the local authorities regarding the provision of pedestrian subways."

Lord Latham said that because the ground on the line of route of the new tube was water-bearing, all the tunnelling would be done in compressed air, with airlocks for the tunnellers located at the working shafts.

He was also able to announce that preliminary works on the conversion of the South London trams had started. The target date for the beginning of the actual changeover was October of next year, and the South London tram depots were being made ready to receive the buses. This was a large and intricate job because pits between the tram lines, and also the roof supports, made the depots unsuitable for buses. The depots were also out of date in other respects.

"At the first three tram depots to be converted to bus work, Wandsworth, Clapham and Camberwell," continued Lord Latham, "while the trams still run we are filling in the pits so as to make floors on which the buses can run. Special overhead wiring is being installed to allow both buses and trams to use the depots during the conversion period. Other measures of preparation for the tram conversion will follow.

"Next January we hope to begin reconstructing four more of the tram depots in readiness for the buses: Streatham, New Cross, Abbey Wood and Thornton Heath, and early in the New Year we shall commence building two entirely new garages, at Stockwell, near Kennington Oval, for 200 buses, and at Rye-lane, in Peckham High-road, for 125 buses. The cost of these garages and depot works will be £2,800,000, and we intend to push ahead with the works at full speed."

Bus Garage Programme.

After giving details of increasing London's buses and bus services, Lord Latham went on: "But getting new buses is not the only headache; our garage situation, even with the fleet at its present level, is very difficult, and we have over 700 buses parked in the open. So we have started on a programme of building and reconstruction of bus garages. This comprises seven new or reconstructed garages to be started in 1949 and 1950, in addition to those I referred to earlier for the tram conversion. We have commenced the first of these new garages at Peckham (Bull Yard) and it will hold 150 buses. I should say that in association with this garage there will be a Divisional Medical Centre for the medical examination of London Transport staff in the south-east of London. Early in the New Year we hope to start the building of other garages at Garston (Watford), Kingston and Loughton and the extensive reconstruction of Shepherds Bush and Hounslow Garages, and next summer we shall make a start with a new garage at Romford. The cost of these seven garages will be some £1,800,000.

"Thus, including both tram conversion and normal bus garages, we shall in 1949 and 1950 be building or reconstructing 16 road garages at a cost of £4,600,000.

"In 1950 the programme of providing additional amenities, including the development of the canteen service and sports facilities for London Transport staff, will be continued."

TECHNICAL EDUCATION IN LONDON

L.C.C.'s Plan

THE Brixton School of Building, London (writes a correspondent), may be Britain's chief centre for teaching the craft, and the school is to be rebuilt on a new site to accommodate many of the hundreds of men waiting for either initial or further education in building.

This is indicated in the London scheme of further education for 1949 which is soon to be published as a report. The scheme provides six schools for building, and the Brixton school will be a monotechnic to provide a peak institute. The five others—Hammersmith, Wandsworth, Northern Polytechnic and two new colleges at Shoreditch and Blackheath—will include provision for other branches of art, commerce and technology.

With the provision of new schools, it is expected that building work will be withdrawn from Hackney technical college, North-Western polytechnic, Paddington technical college, South East London technical college and Woolwich polytechnic.

The report will stress that the existing provision for education in the building industry is insufficient to meet current or probable requirements. In the Greater London area there are over 200,000 building operatives, and it is estimated that in London there are about 34,000 under the age of 30, most of whom should be interested in further education. At present 7,600 students attend the Council's institutes, and of these 2,000 are out-county students.

It is expected that the figure of 600 full-time day students will increase, and the new apprenticeship regulations providing for part-time day release will increase the demand for part-time day classes until county colleges come into operation. There will continue to be a considerable demand for evening classes which now have over 5,000 students in attendance, and, in view of the use of new materials and new techniques, the number of older students who desire courses of study is expected to increase considerably.

ROME SCHOLARSHIP IN ARCHITECTURE

Award to Liverpool Student

THE Faculty of Architecture of the British School at Rome have awarded the Rome Scholarship in Architecture for 1949 to Mr. Ian Scott Melville (Student R.I.B.A.), of the School of Architecture, University of Liverpool. Mr. Melville, who is 30 years of age, commenced his course at the Liverpool School of Architecture in 1937. After six years of war service his studies were resumed in 1945.

Four Schemes Submitted.

The Faculty of Architecture considered that all four schemes submitted this year had achieved an adequate architectural solution of the problem set. This was partly due to the programme, which is attractive, full of suggestion to the imaginative designer, and much simpler than many of those set in previous years. The Faculty were unanimous in deciding that the Scholarship should be awarded for the set of drawings submitted under the pseudonym of "Florence" (Mr. Ian S. Melville). The design is thorough, sensitive and consistent, and admirably suits its site. The plan is simple in its main features and subtle in detail; the swimming bath is uncrowded and the services well placed. The set of drawings is charmingly presented and, although incompletely rendered, is the only set which can be clearly read. The subject was: "An Open-Air Swimming Pool with Restaurant."

The design by "Lamech," following an excellent *esquisse*, is less happy in the placing of the swimming and diving pools and in the internal planning of the restaurant. The scheme has solid merits which are not, however, sufficiently supported by the detail. The set of drawings by "Capriccio," apart from a slight improvement on the *esquisse*, is somewhat under-developed. The plan is simple and could be effectively worked up; but the elevations, and the modelling of the terrain are a little weak. The Faculty had the impression that the designer was not yet familiar with every feature of his site. "Marathon" came very near being disqualified by a considerable departure from his *esquisse*. The Faculty felt, however, that, despite attendant difficulties of service, the bringing forward of the circular restaurant provided a fine vantage point for views on all sides, and that this alteration could be accepted. The design is an interesting one, and in many respects courageous. It falls short of "Florence's" design in being less finished, less simple and consequently less easy to appreciate as a unified plan and composition. The competition designs are on exhibition at 66, Portland-place, W.1, until August 10, between the hours of 10 a.m. and 5.30 p.m. (Saturday 10 a.m. and 12.30 p.m.).

THE ORGANISATION OF BUILDING FIRMS

There follows the fourth in our series of articles, contributed by leading builders in various parts of the country, on the organisation of the medium-sized builder's business. The article deals with a London business employing approximately 600 operatives on a wide variety of work varying from maintenance to substantial building contracts involving a measure of engineering work. Previous articles in this series appeared in our issues for July 15, 22 and 29.—EDITOR.

4.—A London Firm Employing 600 Men

THIS short exposition endeavours to outline the structure of management and industrial organisation of a London firm of building and engineering contractors who, under normal conditions, operate within a radius of up to 150 miles of its headquarters and employs approximately 600 operatives on a wide variety of good quality work from general maintenance to substantial building contracts involving a measure of engineering work.

It will be appreciated that, under existing circumstances, a considerable degree of elasticity in the organisation is required, and it is therefore difficult to define in exact detail the precise functions of each member of the administrative staff. The following details are intended to give an indication of the general policy, procedures and methods which have been laid down as fundamental and which have been adopted so as to ensure as far as possible the smooth and efficient functioning of the undertaking.

Early Beginnings.

The firm began over 70 years ago as a partnership between two young men who had been apprenticed to the building industry and who decided to set up in business together as building contractors. After some 20 years, the partnership was converted into a private limited liability company, with a small board of directors and a nominal capital, which subsequently has been increased on a number of occasions to enable the company to expand its scope and trading capacity.

The company at the present time is administered by a board of seven directors consisting of a chairman, two managing directors, one of whom is deputy chairman, and four other directors, three having certain supervisory responsibilities in connection with the work undertaken. All the members of the board have seryed as apprentices or articled pupils in the industry, and have both technical and administrative qualifications. The board is responsible for determining the general overall policy of the company on behalf of the shareholders, conducting its affairs in accordance with the company's articles of association, ensuring the company's legal obligations being properly discharged and safeguarding the financial interests of the shareholders.

The full board, with the company's secretary in attendance, meets each month to examine the general financial state of the company and the financial position of each contract in progress, to receive reports upon contracts secured, to generally review the trading position of the company and undertake any routine or extraordinary business which may arise.

Managing Directors' Responsibilities.

The two managing directors, who are accountable to the board of directors for the effective and detailed management of the company, in accordance with the policy laid down by the board, mutually share the duties and responsibilities which are summarised below, and, in addition and jointly with the three other directors, personally conduct the supervision of the whole of the building and engineering work undertaken by the company. They are responsible for promoting and sustaining a high level of morale and efficiency among the personnel of the company so as to maintain the company's good will and established standards of quality and service; for defining the various duties of each department of the company and supervising the senior members of the staff so as to ensure the complete co-ordination and integration of the undertaking; and for prescribing and directing the necessary procedures and processes to ensure a strict observance of all statutory and industrial obligations and requirements.

Other duties are: maintaining close and cordial relations with building owners, architects, consultants and quantity surveyors with whom the company have business relations and developing new contacts with a view to securing future business;

Ensuring the welfare and progressive training of all indentured pupils and apprentices in the employ of the company;

Maintaining the adequacy and technical efficiency of the company's administrative staff, effecting staff promotions and upgradings, interviewing and appointing new personnel and encouraging suitable training and higher education among all levels of the staff;

Submitting all tenders and estimates and agreeing the terms and conditions under which work is to be undertaken;

Superintending the management of the company's various properties and submitting to the board recommendations with regard to expenditure, etc., in connection therewith;

Supporting the work of the industry's trade associations and maintaining suitable liaison with the trade unions and government departments concerned with the industry;

Formulating and superintending the management and operation of the company's incentive payment scheme; and

Supervising the management of the company's joinery works, plant and maintenance depots, plumbing and decorating departments, transport, portable machinery and special equipment services and ensuring that their various capacities are both adequate and proficient to supply the needs of the current and future work undertaken by the company.

A Weekly Conference.

In order to maintain the most effective co-ordination of the company's work, the managing directors and other directors responsible for supervision meet each week with the company's secretary and certain heads of departments in attendance for the purpose of examining the general progress of all current contracts, receiving reports upon invitations to tender, submissions and acceptances of tenders, reviewing labour redundancies and vacancies, together with general plant and portable machinery requirements, allotting future work to supervising directors, foremen, surveyors, etc., and generally undertaking a review of each department of the company to enable the necessary action being taken to deal with matters arising and to ensure the smooth control of the whole undertaking.

A minuted record of the reports, interchange of information and matters under discussion is maintained so that detailed supervision of all the company's work can continue without undue interruption or inconvenience in the event of the absence of a director or member of the staff due to illness or other cause. (It has been found from experience under the conditions at present prevailing within the industry that the holding of regular meetings of this nature provides a very vital part in the successful integration of the company's business, and considerably helps to ensure that priorities are agreed where necessary and the overall flow of work regulated on a reasonably satisfactory basis.)

Administrative Division of Work.

The work normally carried out by the company falls into two classes, briefly described below, and each class is dealt with separately as a matter of administrative convenience.

1. *Contract Works,* viz., new constructional work, major structural alterations and additions and minor engineering work.

2. *Small Works,* viz., day-to-day and periodic maintenance, minor structural and internal alterations and additions and conversions, together with war damage repairs.

Immediately an instruction is received to undertake work in either class, a "contract" or "small works" serial number is allotted to the work and such number is used on every order, letter, timesheet and other document to ensure a complete and reliable record of such work being readily available. So far as possible all returns, record forms and routine documents normally used by the company have been reduced to a minimum and standardized on the simplest lines to show only essential information.

Management of "Contract Works."

In the conduct and management of "*Contract Works*" the following procedure is adopted: Immediately upon the acceptance of a tender or instructions being received to commence work the director who will be responsible for the supervision of the contract normally convenes a meeting at the company's head office (followed by a visit to the site), those present being the director, the general foreman appointed to undertake the work, the estimator or surveyor responsible for the preparation of the tender, interim certificates and final settlement of the contract and the head of the buying department. The terms under which the contract will be executed and the scope of the work are very carefully examined and explained, and the policy in respect of the site procedure and general organisation to be adopted is determined, including the provisional disposition of site offices, stores and welfare facilities. An outline time and progress schedule is prepared; and labour, plant and portable machinery requirements are considered and provisionally noted for action by the department concerned. The quotations for materials and services received at the time of tendering are transferred from the estimating department to the buying department, and provisional or warning orders issued to the

firms involved. Arrangements with regard to the notification of insurance companies and the submission of notices to local authorities and public utility undertakings concerned with the contract are made, and the statutory obligations with regard to the building licences and permits for controlled material are examined and noted.

Regular Site Meetings.

During the progress of the work, regular site meetings are held at which the supervising director, architect, general foreman, surveyor and representatives of the sub-contractors concerned are present. The progress of work is reviewed, matters relating to outstanding information, variations, sub-contractors' work, materials and labour are considered, and detailed minutes of the matters discussed are subsequently prepared and circulated to all concerned for confirmation and record purposes. During the contract the supervising director regularly visits the site and is responsible for maintaining a close and detailed control of all matters affecting the progress of the work.

Management of "Small Works."

In the conduct and management of "*Small Works*" the head of the "small works" department normally deals with the allotment of duties to the foreman in his department so far as the smaller or more urgent items of work are concerned, and a similar but rather simpler procedure to that previously described for "contract works" is adopted in respect of the larger items of work.

An important factor in the smooth organisation of the "small works" department is the weekly routine meeting at which all the departmental foremen are present, together with the head of the department and other senior members of the staff. Labour vacancies and redundancies, allotment of duties, issue of instruction for future work, collation and inspection of returns and other matters generally affecting the work of the department are dealt with, and it has been found that such meetings considerably assist in ensuring the prompt receipt of returns and information from the foremen to enable the accurate preparation and prompt submission of accounts to be effected.

General Administration.

The general administrative work of the company is divided between various departments, each of which is self-contained, and the constant and willing co-operation that exists between the various heads of such departments ensures that mutual assistance is readily available on all occasions. The department's respective responsibilities and duties are defined, controlled and co-ordinated by the managing directors and are examined and reviewed each week during the weekly routine meetings of directors. Set out below are the various specific functions performed by each department.

1. *Secretarial Department.* The secretarial department is controlled by the company's secretary, who acts as the head cashier and accountant of the company and who is directly responsible, through the managing directors, to the board for the overall administration of the company's staff. The department includes the company's cashiers, secretarial, typing, duplicating, photostating, telephone and general office staffs, and *inter alia* performs the following functions: Maintaining and keeping in safe custody the statutory books, documents, records and seal of the company and submitting all statutory returns in accordance with the Companies Act; issuing notices and recording the minutes of shareholders' and directors' meetings; effecting the registration of share transfers and the payment of dividends; maintaining the financial records, private ledgers and accounts of the company and preparing routine monthly financial reports and statements for consideration by the Board; paying all staff salaries and expenses, including calculating and deducting amounts due under P.A.Y.E.; conducting all negotiations and routine business with the company's auditors, solicitors, banking houses, insurance companies, trade associations, advertising agents, etc.; giving notices to local authorities and public utility undertakings in connection with the work undertaken; receiving, examining and distributing all incoming mail, organising the despatch of outgoing mail and being responsible for the central filing and safe custody of all correspondence and other documents; acknowledging all certificates, interim and final payments for work executed and effecting the prompt payment of sub-contractors' and merchants' accounts, rates, taxes, fees, subscriptions and all other liabilities incurred by the company; managing the company's various properties; formulating and distributing to all departments and supervising foremen routine information circulars in regard to current matters affecting the industry, with particular reference to Working Rule Agreements, labour and building controls, and other general administrative matters; and maintaining for speedy reference a comprehensive dossier of all current relevant Acts and Statutory Rules and Orders, Working Rule Agreements, Government and trade association reports, circulars, etc.

2. *Prime Cost Department.* The prime cost department is responsible for the safe custody, preparation, maintenance and annual balance of the company's contracts prime cost ledger, small works journal, merchants' ledgers and cash books and bought journals, checking all time, wages and expenses sheets, calculating and deducting amounts due under P.A.Y.E., preparing pay envelopes, drawing moneys at the bank and arranging the payment of wages to all operatives; purchasing and distributing National Insurance and "holidays with pay" stamps and paying and recovering holiday credits; collecting, checking, abstracting, dissecting and entering in the various ledgers and journals all costs incurred on each contract in respect of wages and expenses paid to operatives, materials purchased or supplied from stock, use of woodworking and portable machinery, general plant, special equipment, transport and other general services provided in connection with the work; preparing routine monthly reports and expenditure statements in respect of each contract for consideration by the board; filing sub-contractors' and merchants' delivery notes, invoices, accounts and receipts; and conducting the company's annual stocktaking of material, plant and general assets.

Estimating, Surveying, and Buying.

3. *Estimating and Surveying Department.* Among the functions and duties of the estimating and surveying department are the following: Compiling and maintaining up-to-date details of labour costs in respect of work carried out by the company and establishing current labour outputs to ensure keen and accurate estimating; examining the scope of work, drawings and conditions of contract, visiting the sites and obtaining competitive estimates and quotations from merchants, specialists and sub-contractors for materials and services required in connection with the pricing of bills of quantities to enable tenders to be submitted; taking off quantities from architects' drawings and/or specifications, pricing and preparing tenders and estimates for submission; taking particulars of work required, furnishing schemes, specifications, drawings, details and estimates for submission; preparing interim statements of cost, finalising and agreeing accounts for work or contracts executed, including measuring sub-contractors' work and agreeing their accounts; and calculating and agreeing with the operatives the details of output and certifying the bonuses due under the company's incentive payment scheme.

4. *Buying Department.* The buying department's main duties and functions include maintaining the company's quality standards and its reputation for integrity and fair dealing; interviewing sales representatives from builders' merchants and specialist sub-contractors; locating, selecting and notifying the estimating and surveying department of the most economic sources of supply for the various materials and services required; receiving all orders for materials and plant from the foremen and instructions from the supervising directors with regard to sub-contractors' and specialists' work, placing the requisite orders and/or agreeing terms of sub-contract in connection therewith, including the distribution of copy orders to foremen and ensuring so far as possible the quantities, quality and delivery dates of all materials and services ordered being in accordance with the requirements of the various contracts and small works undertaken; filing and maintaining in safe custody all quotations and estimates, and notifying the supervising directors and heads of departments of any material price fluctuations; knowing the general availability of materials and the substitutes for materials in short supply; being able to assess and forecast general price trends; maintaining for speedy reference a comprehensive collection of trade catalogues, price lists and reference books, together with samples of materials, colour cards, etc.; and maintaining a close liaison with the works manager to ensure the economic maintenance and conduct of the company's material stock.

The "Small Works" Department.

5. "*Small Works*" *Department.* The "small works" department is responsible for co-ordinating all the work previously described as "small works" and for ensuring the written confirmation of all orders received and the transmission of such orders in writing to the foreman concerned, together with any specific directions that may be required from an administrative point of view, also for allotting departmental serial numbers to each order received and fully co-operating with all other departments upon matters of mutual concern and interest. Other duties are to collate information required to enable the prompt preparation and submission of accounts, to assert the optimum deployment of labour and plant to suit the requirements of the programme of work in hand, and to act as a general agency for the organisation of the smaller contracts undertaken by the company.

General Services.

6. *Depot and Works.* The company's main depôt and works are situated separately from the company's head office, and comprise the works canteen, joinery mill

and shops, hardwood and softwood gantries, ironmongery stores, plumbers', painters' and smiths' shops and stores, plant maintenance and portable machinery maintenance shops, general builders' plant and equipment stores, building material stocks, garages and transport services. The depot and works are under the control of the company's works manager, who is supervised by one of the managing directors, and is assisted in his duties by joinery and transport managers and other office staff. He is responsible for the maintenance and upkeep of the works, fixed machinery, lorries, etc., servicing all the small works and contracts undertaken by the company so far as plant, portable machinery and general equipment are concerned, maintaining such plant and equipment in a thoroughly serviceable state, dealing with the manufacture of all joinery and wrought iron work and co-operating with the plumbing and decorating managers in connection with their respective functions.

7. Plumbing and Decorating Departments. The plumbing and decorating departments are controlled by departmental managers who are responsible for controlling—in co-operation with the general foremen and small works foremen—the various plumbing and decorating works undertaken by the company. They arrange the supervision, direction and transfer of their tradesmen, and are also responsible for their respective trade shops and material and plant stores at the company's works and for ordering and arranging the delivery of all material required for stock or use on the works.

Personal Supervision.

From the foregoing the reader will doubtless appreciate that the directors are concerned to a considerable extent in personally supervising every aspect of the company's activities and have endeavoured to establish lines of responsibility, general procedure and respective duties for each section of the administrative staff, to ensure that the work undertaken is carried out under agreeable conditions and is completed both expeditiously and economically. They are aware of certain defects in their present organisation, and are mindful of the current need to improve personnel management, industrial welfare and accident prevention, and they are continually trying to find ways and means of establishing the optimum control over the quality and quantity of work undertaken by the company. They have always encouraged the personnel to feel that they are members of a family concern with a long-standing tradition of service and high reputation for quality to maintain, and it is of interest to record that a large proportion of the present staff received their initial industrial training with the firm, have a considerable number of years' service to their credit, and now hold very responsible positions in the company.

** The next article in this series deals with the organisation of a Midlands firm employing normally 1,000 men.

R.I.B.A.

Intermediate Examination Papers.

The R.I.B.A. Board of Architectural Education announce that the questions set at the Intermediate Examination, held in May this year, have been published and are on sale at the Royal Institute, price 1s. (exclusive of postage).

The Intermediate Examination.

The R.I.B.A. Intermediate Examination was held in eight centres from May 13-19. Of the 664 candidates examined, 263 passed and 401 were relegated.

IN PARLIAMENT

Builders for the Services.

MR. KEY, replying to Mr. Emrys Hughes, said that at the end of May, which was the latest date for which figures were available, approximately 29,600 building workers were employed on building work for the Service Departments. [July 18.]

Brick Production.

MR. BESWICK asked the Minister of Works what was the current rate of brick production; and if he was satisfied that this was sufficient for current requirements.

MR. KEY said that production of bricks of all types during May, the last month for which returns had been received, was over 451 millions. There were indications that the improvement in output which had taken place this year was being maintained. He was not aware of any failure to meet requirements in the country generally. (July 11.)

Mining Subsidence.

MISS JENNIE LEE asked the Minister of Fuel and Power whether he could now make a statement on the report of the Committee on Mining Subsidence.

MR. GAITSKELL said he was grateful to the Committee on Mining Subsidence for their detailed Report on a complicated subject. After careful consideration of the Report the conclusion had been reached that legislation to implement the whole of the Committee's recommendations would involve a number of difficult administrative problems and would have far-reaching financial implications which required further study. The Government were, however, aware of the need for action to alleviate the most serious hardships which occurred owing to subsidence due to the mining of coal, and proposed to introduce legislation as soon as possible to provide a measure of compensation in respect of small dwelling-houses which suffered damage from this cause.

MISS LEE asked if the statement meant that at no future time was legislation contemplated to ease the rate burden in these areas.

MR. GAITSKELL said it was intended that the legislation should cover local authority houses as well as private houses. He could not make any statement on further legislation: the matter was still under consideration.

SIR IAN FRASER asked on what ground of equity would this compensation be confined to small dwelling-houses, leaving out medium-sized houses and small businesses and all others who might suffer.

MR. GAITSKELL: Because I think it important to deal urgently with the most serious element of hardship. [July 28.]

Development Rights.

MR. BOYD-CARPENTER asked the Minister of Town and Country Planning whether he was satisfied that claims in respect of loss of development rights under the Town and Country Planning Act had now been submitted by the persons affected.

MR. SILKIN said he was satisfied that from June, 1948, onwards everything practicable was done to inform owners of interests in land depreciated in value as the result of the Act, of their right to make a claim, and of the closing date thereof. [July 26.]

New Towns Housing Scheme.

MR. K. ROBINSON asked the Minister of Town and Country Planning if he was now able to give details of his scheme for associating New Towns with particular congested areas so far as the provision of housing accommodation was concerned; and what specific proposals he had in view for assisting the Metropolitan Borough of St. Pancras in this connection.

MR. SILKIN said that particulars of the scheme he was proposing for associating the New Towns around London with particular congested areas, including all the Metropolitan boroughs, would be sent very shortly to all local authorities in the Greater London area, with an invitation for their comments on the proposals. In these circumstances the hon. member would not expect him to deal specially with one particular case. [July 26.]

Congleton New Town Proposal.

AIR COM. HARVEY asked the Minister of Town and Country Planning what tests had been carried out regarding the suitability of Congleton to be classified as a New Town; and if he was now able to give a decision in this matter.

MR. SILKIN said tests were now being carried out for the purpose of ascertaining how far certain land in the area might be affected by subsidence due to the solution of underground salt deposits. Investigations were also being made into the extent to which the water supply could be increased. Further examinations had still to be made, and he was not yet able to put forward a definite proposal about a New Town. [July 26.]

Mobberley Green Belt.

SIR JOHN BARLOW asked the Minister of Town and Country Planning what amount of green belt it was proposed to have between the suggested new site at Mobberley and surrounding towns.

MR. SILKIN said he was, of course, anxious that the green belt should be as wide as possible, and this was one of the factors to be taken into account in settling the precise area to be developed. This area, however, had not yet been settled. [July 26.]

INQUIRY BUREAU

A Sweating Wall.

A.—Further to the answer given in our last issue on this subject, it is just possible that the dampcourse, if there is one, is covered up by the external ground land, or that the brickwork is porous in so far as the pointing is concerned. It is suggested that the joints be raked out deeply and the whole face of the wall externally rendered with Portland cement, one part, and clean washed sand, two parts, incorporating a patent waterproofing compound. Render same in two coats at least three-quarters of an inch thick when finished. Internally, hack off the old plaster to walls and ceiling and apply a skimming coat of gauged setting stuff, six parts washed sand to three parts of hydrated lime; add one part plaster of Paris at the time of gauging. The skimming coat and final coat must be left with a wood float finish, and each of the coats should be finished complete without joints. If carried out by an experienced plasterer, it can be left undecorated for 12 months; it could then be distempered, not painted, as condensation collects on non-absorbent surfaces. Attention must be given to ventilation.

G. W. H.

OBITUARY

E. C. Higman, M.B.E.

The death is reported of Mr. E. C. Higman, M.B.E., L.R.I.B.A., of St. Cleer, Cornwall. He set up in private practice in 1919, and was responsible for Liskeard Rural Council's housing works.

BUILDING BY DIRECT LABOUR

"Can be an Expensive Luxury"

"THERE are still a comparatively small number of local authorities who, despite the lessons of the past, persist in building houses by direct labour," said MR. NORMAN LONGLEY (of Crawley, Sussex), President of the National Federation of Building Trades Employers, speaking at the half-yearly meeting of the North Western Federation, at Leigh, Lancs, on July 27.

"When the time comes to foot the bill," he went on, "and they have to face their ratepayers, with whose money they are gambling, many of them will, I am sure, wish they had listened to the warning given by Mr. Aneurin Bevan when he said that building by direct labour could be an expensive luxury. What is even worse is that some of these local authorities are undermining the stability of the industry by spending public money in offering all sorts of inducements to the operatives to bypass the wage rates laid down by the National Joint Council for the Building Industry. Such action is not only at variance with Government policy but is against the national interest. If persisted in it is bound to undermine the wage structure of the industry and so lead to chaos."

Mr. Longley continued, "I would advise those private enterprise builders who are fortunate enough to be living in areas where the one-to-four house-building ratio is actually working and are contemplating the building of houses for sale or for letting privately, to register with the National House-Builders' Registration Council. My Federation, whose pioneer work resulted in the setting up of this Council, has a rule requiring members who build houses under these conditions to apply to be registered by the Council, but all private house-builders should come in.

"The Registration Council is an example of voluntary co-operation between house-builders, architects, surveyors, local authorities, etc., and was set up because the building industry was determined that houses should be built to good standards. It makes the jerry-builder a thing of the past!

"The Registration Council, which has been recognised by the Minister of Health, not only makes certain, by laying down specifications and carrying out inspections, that all houses for which it is responsible are properly built, but also, by its scheme of insurance, it gives protection to purchasers."

BUILDERS' SWEDISH VISIT

A PARTY of members of the Southern Counties Federation of Building Trades Employers left England on the m.s. *Saga* on August 4, for an official visit to Sweden which is to last until August 20. The delegation, which is being led by Mr. W. Keith Martin, C.C., the President of the Southern Counties Federation, consists of 40 members of the Federation, accompanied in many cases by their wives and families.

On arrival at Gothenburg the party will entrain for Stockholm, and during its stay in Sweden's capital city will visit various modern dwellings and the new hospitals and schools. The Stockholm Master Builders' Association is arranging these visits. The party will proceed to Gavle, where it will visit the Korsnas Timber Works, the Sandvik Steel Works and a Swedish mine and the new housing estate. In addition, a full programme of social engagements has been arranged.

IS APPRENTICESHIP TOO LONG?

"Creating the Super Craftsman"

"A SOLUTION to the apprenticeship problem is one of the most urgent things facing the building industry to-day," said MR. NIGEL HANNEN, President of the L.M.B.A., at a meeting of the South-Eastern Area at Chislehurst last week. Mr. W. H. Gough-Cooper, Chairman of the Area, presided.

"Immediately after the war," said Mr. Hannen, "we were all enthusiastic at Bedford-square about apprenticeship. We said that the only way for a craftsman to enter the building industry was through the official apprenticeship scheme. That meant that unless a boy made up his mind before he was 16 or, in exceptional cases, within the next year or two, he could not rise above the rank of labourer. To-day that seems hardly fair or practical.

"Before the war, we had unindentured learners, and there were also many adults who, having worked for some years as mates to craftsmen, eventually found themselves doing the job themselves. I doubt whether these men ever made craftsmen in the old sense of the word, but there was then, as there is now, a demand for men who can do the simpler jobs satisfactorily, and in these days these simpler jobs form a big proportion of the work we are doing. The present apprenticeship scheme, on the other hand, provides for all men to be trained as what, by comparison, might be called super-craftsmen.

"That makes you think. At least I hope it does. For there is a big problem facing us here—how to provide sufficient craftsmen to man the industry in the years to come. I do not at the moment know what the solution to the problem is, but this I do know, we have all got to set our minds to it and solve it somehow if we are going to succeed as an industry."

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NEWS IN BRIEF

German War-time Industry.

The following reports on German Industrial Technique are now available from the Stationery Office: BIOS 1490, "German Gypsum Industry (British, American and French Zones)" (17s. 10d. post free) and BIOS 1867, "An Investigation into the Steel Bridge and Constructional Engineering Industry of Germany" (11s. 3d. post free).

Farm and Horticultural Electrical Installations.

The Council for Codes of Practice for Buildings has now been issued as a draft for comment, Code 325, "Farm and Horticultural Electrical Installations." It has been prepared on the Council's behalf by a committee convened by the Institution of Electrical Engineers and incorporates in one document the following sub-codes:—325.101 (Farm Consumers' Distribution), 325.102 (Farm Wiring), 325.103 (Farm Lighting), 325.104 (Farm Heating Installations), 325.105 (Farm Motive Power) and 325.106 (Horticultural Installations). Copies of the draft code may be obtained from the British Standards Institution, Sales and Distribution Department, 24, Gillingham-street, London, S.W.1, price 9s. post free, proof reference CP(B)869.

Golf Matches.

The annual golf match between the R.I.B.A. Golfing Society and the R.I.C.S. Golfing Society was played at New Zealand Golf Club on July 20, and the results were as follows:—The singles in the morning were won by the R.I.B.A., six matches to three. The foursomes in the afternoon were won by the R.I.C.S., four matches to one. The result of the day's play was a tie of seven matches each.

The Edifice Golfing Society of Sussex held their summer meeting at Cooden Beach Golf Club. The competition for the President's Prize resulted in a tie between J. F. Wood and A. C. Franklyn, the former winning the prize on a better score for the last nine holes. The high spot of the meeting was a hole in one at the 164-yard seventh hole by F. Stuart. The next meeting will be held at Crowborough in October, and particulars can be obtained from the Hon. Secretary, Mr. A. E. Hudson, 59, Carlisle-road, Eastbourne.

Tunbridge Wells Building Week.

Students and building apprentices from 29 technical colleges and schools and five art schools in Kent, Sussex and Surrey are to make an interesting contribution to the Building Week, sponsored by the Ministry of Works in association with the Building Industry, Professional Institutions and Government Departments, which is to be held at Tunbridge Wells from September 19-24. A section of the exhibition in the Assembly Hall will consist of models and drawings produced by scholars of the Technical Colleges and Schools of Building in the South-Eastern Region. The work exhibited by the students will cover the main building crafts, including bricklaying, plumbing, carpentry and joinery, and plastering.

A wooden bridge connecting the stage with the body of the Assembly Hall is being built by building apprentices now working at Bellfields Estate, Guildford, under an apprentice master scheme of the Building Apprenticeship and Training Council. The apprentice-master is Mr. M. Evans, of H. Ashenden, Ltd., Guildford.

RATES OF WAGES IN THE BUILDING TRADE [AS FROM FEB. 7, 1949]

(Every endeavour is made to ensure accuracy, but we cannot be responsible for errors)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification,	A	A1	A2	A3
Craftsmen ...	2/10	2/9½	2 9	2 8½
Labourers ...	2/3¼	2 3	2/2½	2 2

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Aldeburgh	A3
Aldershot District	A2
Alfreton U.D.	A
Alnwick	A1
Altrincham	A
Amble	A1
Amersham	A1
Ammanford	A
Andover	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashby-de-la-Zouch U.D.	A
Ashby Woulds U.D.	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone (parts of)	A1
Aylesbury	A2
Aylesby (Yorks)	A
Aylesham	A3
Bagshot	A2
Bakewell U.D.	A2
Banbury	A2
Barnard Castle U.D.	A1
Barnoldswick U.D.	A1
Barnsley	A
Barrow-in-Furness	A
Barrow-upon-Soar R.D. (exc. Thrussington A2)	A
Barry	A
Basford R.D. (exc. Willoughby-on-the-Wolds A2)	A
Basingstoke	A2
Bath	A
Batley	A
Baxterley	A1
Beaconsfield & District	A1
Beamish	A
Bearl	A
Bearpark	A
Beccles	A3
Bedale R.D.	A
Bedford	A
Bedlington	A
Bedwas	A
Beeston & Stapleford U.D.	A
Belper U.D.	A
Belton	A
Berkhamsted	A1
Berrington	A1
Berwick District	A1
Beverley	A
Bexhill-on-Sea	A2
Biggleswade	A2
Billericay	A1
Billing	A
Billingham U.D.	A
Bilsthorpe	A
Birchington	A2
Birkenhead	*
Birmingham C.B.	†A
Bishop Auckland	A
Bishop's Stortford	A1
Bispham	A
Blackburn	A
Blackpool	A
Blackwell R.D.	A
Blaydon U. D.	A
Blidworth	A
Blyth	A
Bognor Regis	A2
Boldon U.D.	A
Bolsover U.D.	A
Bolton	A
Bourne End	A1
Bournemouth District	A1
Bracknell	A2
Bradford	A
Bradford-on-Avon	A2
Braintree	A2
Breconshire, County of	‡A3
Brent Knoll	A2
Brentwood	A
Bridlington	A
Brierfield	A
Brighouse	A
Brighton	A1
Bristol	A
Broadstairs	A2
Bromsgrove U.D.	A
Brough	A
Broughton (Cheshire)	A
Buckley	A
Bungay	A3
Burnham-on-Crouch	A3
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A3
Buxton	A1
Byfleet	A1
Calder Valley	A
Cambridge	A
Cannock U.D.	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A3
Carlisle	A
Carmarthenshire, Cnty.of	‡A3
Carnarvonshire, Cnty of	‡A3
Carnforth	A
Castleford	A
Caterham	A
Chapel-en-le-Frith	A1
Charmy Down	A
Chatham & District	A1
Cheadle (Staffs) R.D.	A
Chelmsford	A
Cheltenham	A1
Chepstow	A1
Chertsey	A
Chester	A
Chesterfield M.B.	A
Chesterfield R.D.	A
Chester-le-Street U.D.	A
Chichester	A2
Chippenham (inc. Chippenham Within and Hardenhuish)	A2
Chorley	A
Clacton	A1
Cleethorpes	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville U.D.	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett	A
Conway	A1
Cornwall, County of	‡A2
Coventry C.B.	A
Cranbrook	A2
Cranleigh	A2
Crawley (Sussex)	A2
Crewe	A
Cromer	A1
Crowborough	A2
Cuckfield	A2
Dalton-in-Furness	A
Darlington District	A
Darwen	A
Deal	A2
Denbigh Town	A2
Derby C.B.	A
Devizes	A2
Devon, County of	‡A2
Dewsbury	A
Didcot	A2
Diss	A3
Doncaster C.B.	A
Dorking	A1
Dorset, County of (excepting Poole and Wimborne A1)	A2
Dover	A2
Dovercourt	A1
Driffield U.D.	A1
Droitwich M.B.	A1
Dudley M.B.	A
Dunstable	A
Durham City	A
Eastbourne	A1
E. Glam. & Mon. Val.	A
East Grinstead District	A2
Eastwood (Notts.) U.D.	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A3
Epping	A
Exeter	A1
Fakenham	A3
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey U.D.	A1
Fleetwood	A
Flint	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough R.D. (Mid. pt.)	A2
Gateshead	A
Gillingham (Kent)	A1
Glossop	A
Gloucester	A1
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole M.B.	A
Gosport	A
Grantham M.B.	A1
Gravesend	A
Great Yarmouth	A1
Grimsby (Yorks.)	A
Grimsby R.D. (Lincs.)	A3
Guildford District	A2
Guilsborough	A1
Guiseley	A
Halesowen M.B.	A
Halifax	A
Halstead	A2
Haresfield	A1
Harlow	A1
Harpenden	A1
Harrogate	A
Hartlepool	A
Harwich	A1
Haslemere	A2
Hastings	A2
Hatfield (Herts.)	A
Haywards Heath	A2
Hemel Hempstead	A1
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham U.D.	A
Heysham	A
High Wycombe	A1
Highworth	A2
Hinckley U.D.	A
Hitchin	A1
Hoddesdon	A
Horley	A2
Horsham	A2
Horwich	A
Huddersfield	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkley	A
Ingatestone	A1
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A3
Jarrow M.B.	A
Keighley	A
Kendal	A
Kenilworth U.D.	A
Kettering M.B.	A
Keynsham	A
Kidderminster M.B.	A
King's Lynn	A2
Kingskerswell	A1
Kingsteignton	A1
Kirkham	A
Knaresborough U.D.	A
Knowle	A1
Lancaster	A
Leamington M.B.	A
Leatherhead	A
Leeds	A
Leicester C.B.	A
Leighton Buzzard	A2
Letchworth	A1
Lewes	A2
Lichfield M.B.	A1
Lincoln C.B.	A
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly	A
London	*
Long Eaton	A
Loughborough M.B.	A
Louth M.B.	A2
Lowestoft	A1
Loxton	A2
Luton	A
Lyneham (Devon)	A1
Macclesfield	A1
Maidenhead	A1
Maidstone	A1
Maltby	A
Maldon (Essex)	A2
Malvern U.D.	A2
Manchester	A
Manningtree	A1
Mansfield M.B.	A
March	A2
Margate	A2
Market Harborough	A1
Maryport	A
Matlock U.D.	A1
Melksham	A2
Melton Constable	A3
Melton Mowbray U.D.	A2
Merthyr	A
Middlesbrough	A
Middleton	A
Middlewich	A1
Milford Haven	A2
Morecambe	A
Morley	A
Mundesley	A2
Nantwich	A1
Nelson	A
Newark-on-Trent R.D.	A1
Newbury	A2
Newcastle-on-Tyne	A
Newcastle-under-Lyme	A
New Forest District	A2
Newmarket	A2
Newport, Mon.	A
Newport Pagnell	A2
Newton Abbot	A1
Northallerton Dist.	A
Northampton C.B.	A
North Shields	A
Norton Radstock	A1
Norwich	A
Nottingham C.B.	A
Nuneaton M.B.	A
Oakham U.D.	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett and Horbury	A
Oxford	A
Oxted	A1
Paignton	A1
Peterborough	A
,, Soke	A1
Pickering	A3
Plymouth	A
Pontefract	A
Pontypridd District	A
Portishead	A
Portland Stoneyards	A
Portsmouth	A
Port Talbot	A
Preston	A
Pudsey	A
Pulborough	A2
Radnorshire, County of	‡A3
Ramsgate	A2
Rayleigh	A1
Reading	A
Redcar B.	A
Redditch U.D.	A
Redhill and Reigate	A
Ripon	A3
Rochdale	A
Rochester	A1
Rotherham	A
Rugby M.B.	A
Saffron Walden	A2
St. Albans	A
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sawbridgeworth	A1
Saxmundham	A3
Scarborough	A
Scunthorpe	A
Selby	A
Sevenoaks	A1
Sheerness	A2
Sheffield	A
Shipley	A
Shoeburyness	A
Shoreham	A1
Shrewsbury M.B.	A
Sittingbourne	A2
Skegness U.D.	A1
Skipton U.D.	A1
Sleaford U.D.	A2
Slough	A1
Smethwick C.B.	†A
Snettisham	A2
Somerset, County of	‡A2
Southampton	A
Southend-on-Sea Dist.	A
Southport	A
South Shields C.B.	A
Spalding U.D.	A2
Stafford M.B.	A
Staines	A
Stamford M.B.	A1
Stantonwick	A
Stevenage	A1
Stockport	A
Stockton R.D.	A
Stockton-on-Tees	A
Stoke-on-Trent C.B.	A
Stoke Orchard	A1
Stourbridge M.B.	A
Stourport U.D.	A
Stowmarket	A3
Stratford-on-Avon M.B.	A1
Sunderland District	A
Sunningdale	A
Sutton Coldfield M.B.	A
Swaffham	A3
Swanage	A2
Swansea	A
Swindon	A2
Swinton U.D.	A
Tamworth M.B.	A
Tenterden	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A3
Thorpe Bay	A
Thurrock U.D.C. Area	A
,, North of, to Billericay	A1
Tilbury	A
Todmorden	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A2
Tunbridge Wells	A1
Tynemouth C.B.	A
Uppingham (Salop)	A1
Uttoxeter U.D.	A2
Wakefield	A
Wallsend B.	A
Walsall C.B.	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick M.B.	A
Wellington R.D.	A1
Wells (Norfolk)	A3
Welwyn	A
Welwyn Gar. City	A
West Bromwich C.B.	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth	A2
Whitby U.D.	A1
Whitstable and District	A2
Wickford	A1
Widnes	A
Wigan	A
Wigton	A3
Willington	A
Wilmslow	A
Wilts. County of	‡A2
Winchester	A2
Windermere	A3
Windsor and Eton	A1
Wisbech	A2
Witham	A2
Woking (District)	A1
Wokingham	A2
Wolverhampton C.B.	A
Woodbridge	A3
Worcester C.B.	A
Workington	A
Worksop M.B.	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A2
Wylam	A
Wymondham	A3
York	A

* For Birkenhead, Liverpool, and London the rates are :—Craftsmen, 2s. 11½d.; Labourers, 2s. 4½d. In the case of London the rate beyond the 12-mile radius is :—Craftsmen, 2s. 11d.; Labourers, 2s. 4d.

† Plus 2d. per working day.

‡ This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters, Joiners and Plumbers in all towns and districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 2/- per hour. Women introduced to carry out work other than craft processes, 1s. 8d. per hour.

For Building Trade Wages in Scotland, see page 184.

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will of course be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of softwoods are for cash on delivery.

BRICKS, etc.

	£ s. d.
First Hard Stocks	9 5 0
Second Hard Stocks	8 15 0
Mild Stocks	7 10 0

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.

2½-in. Nominal Phorpres Bricks.	At Maiden Lane Stn., per 1,000.	To Sites in West Central District per 1,000.
	s. d.	s. d.
Commons	73 0	85 0
Cellular	67 11	85 0
Keyed	75 0	87 0
Cellular Keyed ...	69 11	87 0
Rustics	93 0	105 0
Cellular Rustics ...	87 11	102 11
Single Bullnose	93 0	105 0
Sandfaced	103 0	115 0
Cortex Facing Brick ...	88 0	100 0

* At King's Cross Stn. † ex King's Cross Stn.

	£ s. d.
Best blue Pressed Staffs. (London Stns.) ...	18 16 0
Do. Bullnose (London Stns.)	20 2 0
Blue Wire Cuts (London Stns.)	16 14 6
Midhurst Lime Bricks. (Del. London Sites)	8 5 0
Uxbridge Whites (Del. London Sites) ...	6 4 6

Best Stourbridge Fire Brick (London Stns.):—

£ s. d.	£ s. d.
2½ in. ... 16 18 6	3 in. ... 19 16 0

GLAZED BRICKS (London Stns.). The prices given below are now subject to a percentage addition of 27½ for Best, and 22½ for Second quality.

Best White Ivory and Salt Glazed		D'ble Stretchers	53 10 0
		D'ble Headers	48 10 0
Stretcher	40 0 0	One side & two ends	54 10 0
Headers	39 10 0	Two sides & one end	56 0 0
Quoins, Bullnose & 4½in. Flats	50 0 0	Splays and Squints	52 0 0

Second Quality, £2 0s. per 1,000 less than best. Cream and buff, £2 0s. extra over white. Other colours. Hard Glaze, £5 10s. 0d. extra over white.

Haulage to site 20s. 1,000.

PARTITION SLABS.

Delivered Central London Area.

HOLLOW CLAY PARTITION BLOCKS.

London Brick Company.

Minimum Lorry Loads. Keyed.	s. d.
2" per yd. sup. 120 yds.	3 1
2½" " " 100 "	3 4
3" " " 100 "	4 0
4" " " 84 "	4 7

Half blocks *add* 2s. per yard super to above prices

CLINKER CONCRETE.

2" per yd. sup.	2 7	3" per yd. sup.	3 6
2½" " "	3 1	4" " "	4 6

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	3 1
Size 12 x 9 x 2½" " "	3 4
Size 12 x 9 x 3" " "	4 0
Size 12 x 9 x 4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12 x 9 x 2"	3 1	12 x 9 x 3"	4 0
12 x 9 x 2½"	3 4	12 x 9 x 4"	4 7

Per yard super d/d. Free on site, London.

Plus 2d. for smooth one side, and 4d. for smooth both sides.

STONE.

	s. d.
BATH STONE—	
Monks Park	5 4
St. Aldhelm Box Ground	6 4
Delivered in railway trucks at South Lambeth, G.W.R., per ft. cube.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly. per ft. cube	6 1½
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire. Random blocks up to 3 ft. 3 in. long and not over 10 cu. ft. per ft.cube	22 6
Slabs—Random sizes sawn 2 sides, up to 5 ft. long and not over 15 ft. super, ½ in. per ft. super	4 7
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super). per ft. super	9 4
6 in. rubbed two sides, ditto " "	10 10
3 in sawn two sides slabs (random sizes) " "	4 5
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) " "	2 4
1½ in. to 2 in. ditto " "	2 1½
HARD YORK—	
Delivered at any Goods Station, London	
Scrappled random blocks per ft. cube	13 4
6 in. sawn two sides landings to sizes (under 40 ft. super). per ft. super	10 0
6 in. rubbed two sides, ditto " "	11 10
4 in. sawn two sides slabs (random sizes) " "	6 5
3 in. ditto ditto " "	4 10
2 in. self-faced random flags per yd. super	19 9

CEMENT.

Best British Portland Cement. Standard Specification delivered London area	£ s. d.
6-ton loads and upwards site.....per ton	3 0 6
1- to 6-tons site	3 5 6
In non-returnable paper bags charged at 10/– net per ton or 6d. each net per sack in lots of less than 1 ton.	
In non-returnable jute sacks charged at 10/– per ton.	
In returnable jute sacks charged at the rate of 35/6 net per ton of cement of 1/9½ net per sack in lots of less than 1 ton. Credit on return at 1/6 net per sack.	
In returnable cotton sacks charged at the rate of 3/4 net each sack. Credit on return at 3/– net each sack.	
"Ferrocrete" Rapid Hardening Cement 6-ton loads and upwards site	3 6 6
1- to 6-tons site	3 9 6
In paper bags 11/– per ton extra.	
"Aquacrete" Water Repellent cement, 31/6 per ton on ordinary "Blue Circle" prices. In paper bags, 9/– per ton extra.	
Red, Buff or Khaki "Colorcrete" in 6-ton lots	5 2 0
In paper bags 9/– per ton extra.	
Other colours, according to colour. In 4-ton lots from 173/– to 397/– per ton (including paper bags).	
"Snowcrete" White Portland Cement (In free paper bags)	11 14 0
Under one ton per cwt.	0 14 0
"417" Cement (Ultra Rapid Hardening) Delivered Site London Area in 6-ton lots and upwards	4 2 0
In paper bags 9/– per ton extra.	
Super Cement (Waterproof), bags extra	4 12 0
Cullamix Tyrolean Finish...£7 15 6 to (1-ton lots and upwards, including cost of paper bags).	9 9 0

£ s. d.	£ s. d.
Parian Cement 8 6 9	Keen's Cement, White 8 6 9
	Pink 8 1 9

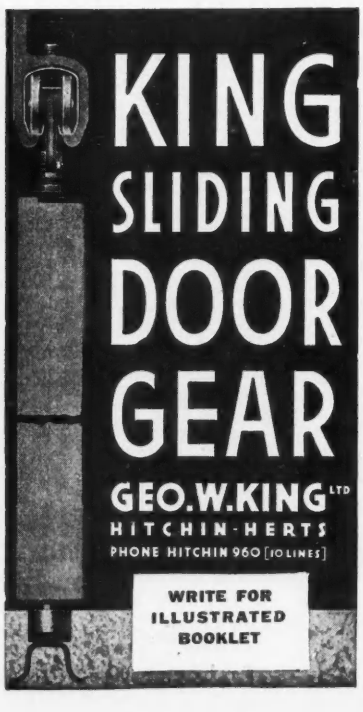
PLASTER.

£ s. d.	£ s. d.
Coarse, Pink 5 11 9	Sirapite, Coarse 5 15 6
" White 5 19 9	" Finish 6 3 6

Above prices for 1-ton loads and over London Area.

Blue Lias Lime, inc. bags, 6-ton lots ... 5 17 6	Hydrated Lime, 6-ton lots	4 1 6
Granite Chips, 6-ton lots ... 2 3 0	Lump Lime, 6-ton lots	3 15 3
	Hair, per cwt.	4 4 6

Stourbridge Fireclay in paper bags £4 2s. 0d., 6-ton lots at railway depot.



PLASTER AND WALL BOARDS.

Plaster (Gypsum) Boards ⅜ in. thick, 600 yds. and over in one delivery 1/9 sq. yard.

Wall Boards—3 and 4' wide, 6 to 12', ⅜" thick. 600 yds. and over in one delivery, 2/– sq.yd.

Carriage paid to site.

SAND.

D/D site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

	s. d.
Thames Ballast ..... per yd.	15 9
Pit Ballast ..... "	15 10
Pit Sand ..... "	15 2
Washed Sand ..... "	17 0
⅜ in. shingle ..... "	15 2
⅜ in. Broken Brick ..... "	17 6
Pan Breeze ..... "	10 4

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r London

	£ s. d.
Best machine made tiles from Broseley or Staffordshire districts	9 14 6
Ditto, hand-made, ditto	11 11 0
Ornamental ditto	12 4 0
Hip and valley tiles—Hand-made (per dozen)	19 5
—Machine-made	18 4

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES.

First quality slates from Penrhyn or Portamadoc carriage paid in full truck loads to London Rate Station

Per 1,000 actual £ s. d.	£ s. d.		£ s. d.
24 by 12	69 18 0	18 by 10	35 10 6
22 by 12	61 4 4	18 by 9	32 5 6
22 by 11	55 0 6	16 by 10	31 13 3
20 by 12	50 7 0	16 by 8	24 13 9
20 by 10	46 6 3		

NOTE : Breakage in transit, purchasers' responsibility.

PLUMBERS' BRASS WORK.

Delivered in London.

M.O.H.

S.D. BIB COCKS CRUTCH HEAD, FOR IRON.

½ in. 66/– ¾ in. 108/– per doz.

TOILET BIB COCKS FOR IRON.

½ in. 114/– ¾ in. 171/– per doz.

S.D. STOP COCKS FOR IRON.

¼ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
72/–	111/–	189/–	312/–	468/–	840/–	per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
102/–	150/–	312/–	408/–	642/–	1056/–	per doz.

DOUBLE NUT BOILER SCREWS.

¼ in.	½ in.	1 in.	1¼ in.	1½ in.	2 in.	
17/–	20/–	36/–	68/–	108/–	140/–	per doz.

HEAVY CROYDON BALL VALVES.

¼ in.	½ in.	1 in.	1¼ in.	1½ in.	
97/–	150/–	263/–	394/–	570/–	per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.	
23/6	33/–	41/–	79/–	107/–	139/–	per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.	
29/–	36/–	67/–	77/–	101/–	per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1½ x 6 lb.	1½ x 6 lb.	2 x 7 lb.	3 x 7 lb.	
Lead P.	71/–	89/–	143/–	219/–	per doz.
Lead S.	87/–	108/–	176/–	291/–	per doz.

SOLDER.—Plumbers' 3/4, Tinmen's 4/2, Blow pipe 4/3 per lb.

Copper Tubes .....1/9½ per lb. Basis.
Brass Tubes.....1/7½ per lb. Basis.
Basis prices are subject to extras.

GLUE.

Best Scotch Glue	per ½ cwt.	4 9 9
Croid Glue	per lb.	9

VARNISHES, etc.

		Per gallon
Oak Varnish	Outside	1 6
Fine do.	"	1 16
Fine Copal	"	1 15
Pale Copal	"	1 12
Floor Varnish	Inside	1 10
Fine Pale Paper	"	2 1
Hard Drying Oak	"	1 10
Fine Hard Drying Oak	"	1 12
Fine Copal Varnish	"	1 13
Best do.	"	1 16
Best Japan Gold Size	"	1 15
Best Black Japan	"	1 8
Brunswick Black		1 4
Berlin Black		1 8
Knotting (patent)		1 12
French and Brush Polish		1 8
Liquid Dryers in Terebene		1 8

* The information given on these pages has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

See Note at top of preceding page.

PAINTS, etc.

		£	s.	d.
Raw Linseed Oil (5 galls.)	per gallon		18	0
Boiled Linseed Oil (5 galls.) ...	,,		18	6
Genuine White Lead (free kegs)	cwt.	6	13	9
Genuine White Lead Paint (tins free)	gall.	2	2	6
Genuine Red Lead	cwt.	6	7	6
Putty (free packages)	cwt.	2	12	9
Size XD quality.....	f.kn.	0	8	0

Turpentine substitute can be obtained and prices vary according to quality from 3/8 gallon upwards.

METALS.

	£	s.	d.
JOISTS, GIRDERS, &C., TO LONDON STATION. PER TON			
R. S. Joists, cut and fitted	£34	0	0
Plain Compound Girders	£38	10	0
Stanchions	£46	0	0
In Roof Work	£58	10	0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£	s.	d.	Diameter.	£	s.	d.
½ in.	30	1	0	½ in.	27	16	0
⅝ in.	29	6	0	⅝ in. to 2⅜ in.	27	1	0
¾ in.	28	11	0				

W. I. TUBES.

TUBES AND TUBULARS.

Galv. Class A.	List price, less	12½ per cent.
,, ,, B.	,,	7½ ,,
,, ,, C.	,,	Net.
Black, ,, A	,,	less 33 per cent.
,, ,, B	,,	,, 22½ ,,
,, ,, C	,,	,, 15 ,,

C.I. HALF-ROUND GUTTERS.—London Prices ex Works, per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	2/5	2/2	7d.
3½ in.	2/9	2/5	7d.
4 in.	2/10	2/7	1/–
4½ in.	3/2	3/–	1/2
5 in.	3/5	3/3	1/3

O.G. GUTTERS.

3 in.	3/2	2/10	9d.
3½ in.	3/7	2/10	1/–
4 in.	3/7	3/–	1/2
4½ in.	3/9	3/5	1/3
5 in.	4/7	4/–	1/5

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends. Angles.	Branches.
2 in.	5/–	2/7	3/10
2½ in.	5/3	3/–	4/6
3 in.	5/10	3/8	5/6
3½ in.	6/9	4/5	6/5
4 in.	7/9	5/3	7/8

NET PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES.—London Prices, ex stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	6/0	4/7	5/6
2½ in.	6/3	5/2	6/10
3 in.	7/0	5/7	8/3
3½ in.	7/10	6/10	9/6
4 in.	9/0	7/9	11/1

L.C.C. COATED DRAIN PIPE.

	cwt.	qr.	lb.	per yard. in 9 fts.	Bends.	Branches.
4 in. ...	1	1	17	16/6	11/6	20/2
6 in. ...	2	0	1	24/7	23/10	41/4

	Per ton basis in London. £	s.	d.
IRON.—Staffordshire Crown, Merchant quality.....	29	5	0
IRON—Staffordshire Marked Bars	38	0	0
Mild Steel Bars	25	13	6
Mild Steel Hoops.....	27	10	0

Ex Merchant's Stock per ton (two-ton) lots.

	£	s.	d.
Soft Steel Sheets C.R. and C.A.—			
20 gauge	32	5	0
24 gauge	33	10	0
26 gauge	34	10	0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20 gauge	41	17	0
24 gauge	43	17	0
26 gauge	46	12	0
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	42	19	6
24 gauge	44	19	6
26 gauge	47	14	6

	Per ton. £	s.	d.
Cut Nails, 3 in. and up, 1 ton lots	41	15	0

ALL NET.

METAL WINDOWS. — Standard sizes suitable for complete houses, included all fittings, painting two coats, and delivery to job, average about 6s. 0d. to 6s. 3d. per foot super.

LEAD, etc.

(Deliveries in London, 5 cwts.)	Per ton. £	s.	d.
LEAD.—Sheet, English, 3½ lb. and up	100	5	0
Pipe in coils	101	10	0
Soil pipe	104	10	0
Compo pipe	108	0	0

NOTE.—Country delivery, 10s. per ton extra, lots under 3 cwt., 4s. per cwt. extra and over 3 cwt. and under 5 cwt., 3s. per cwt. extra. Extra if cut to size. Old lead, ex London area, per ton, £55 0s. 0d. Buyers pay carriage.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY.

CUT SIZES.	Per ft. Super. d.
18 ozs.....	4½
24 oz. clear.....	5¾
26 oz.	7½
32 oz.	9¾

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft.
Rolled plate, ¼ in.	7½
Rough cast, 3/16 in.....	8½
Rough case, ¼ in.	8½
Figure rolled, and Cathedral white	7½
Figure rolled, and Cathedral tinted	10½
Rolled sheet	6
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	11
Rolled plate is the same price as rough cast rolled.	double

	Per ft. d.
Wire Cast, ¼ in. thick	9½
Georgian Wired Cast	10½

HOLLOW GLASS BLOCKS.

		s.	d.	
P.B.	2—5¼ in. × 5¼ in. × 3¼ in.	2	6	each net.
P.B.	3—7¼ in. × 7¼ in. × 3¼ in.	3	10	,,
P.B.	32—7¼ in. × 7¼ in. × 3¼ in.	3	10	,,
Radiused Corner Brick to match up with—				
P.B.	2	4	6	,,
P.B.	3	6	0	,,
P.B.	32	6	0	,,

TIMBER, SOFTWOODS AND HARDWOODS.

HOME GROWN TIMBER PRICES.—*See Statutory Rules and Orders*, 1947. No. 94, price 5d. net.

IMPORTED SOFTWOODS PRICES.—*See Statutory Rules and Orders*, 1947, No. 731, price 1s. 1d. net.

IMPORTED HARDWOODS PRICES.—*See Statutory Rules and Orders*, 1947, No. 1524, price 1s. 1d. net.

Note.—The above can be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2.

(a) For old, hard, thick Paint, Varnish, French Polish, etc., use

QUICKSTRYP 31

(b) For Stoved and ordinary Enamel, Polish, Varnish and thin Paint, use

QUICKER-STRYP 32

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SAVES... its cost in time saved

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HOUSING PROGRESS

Figures for June

THE Housing Progress Reports presented to Parliament on August 2 by the Minister of Health and the Secretary of State for Scotland show that the number of permanent houses completed in Great Britain during June was 16,489, compared with 16,866 in May. This brings the number of permanent houses completed during the year to date to 101,177 made up as follows: January, 15,897; February, 16,655; March, 20,160; April, 15,110; May, 16,866; and June, 16,489.

The total number of houses completed is 684,043 (526,897 permanent and 157,146 temporary)

During June homes were provided by new building, repair of uninhabitable houses, conversion and requisitioning for 17,768 families, compared with 18,469 in May and 16,587 in April. This brings the total number of families rehoused by these methods under the post-war programme to 974,881. Excluding requisitioned houses, the number of additional homes provided is 945,836.

The total labour force employed on the construction or repair of houses in Great Britain fell during quarter ended June from 513,100 to 511,500. There were 222,600 men engaged on the construction of permanent houses and preparation of housing sites, compared with 221,200 at the end of March.

PRODUCTION OF BUILDING MATERIALS

	Quarter Ended *June*	*March*	*Dec.*
Cement (thousands of tons)	791	685	748
Plasterboard (thousands of sq. yds.)	3,993	3,175	4,020
Stoneware pipes and conduits (thousands of tons)	43.2	42.2	43.1
Bricks (millions)... ...	427	396	396
Plaster gypseous (thousands of tons) ...	21.1	18.9	19.2
Stocks of softwood timber (standards) ...	*182,624	324,603	466,200

* Represents estimate.

DIRECT BUILDING AT WOLVERHAMPTON

WOLVERHAMPTON Town Council on July 25 referred back a proposal that the Corporation's direct building department should erect further houses on the Willenhall-road North estate.

In a report to the Housing Committee the Borough Engineer, Mr. W. M. Law, had indicated that the department was making good progress in the building of houses on the estate, and the committee stated that in order to secure continuity of work, they had approved in principle of a further contract being given to the department for the erection of about 100 more houses there. The contract price would be based on the schedule of the prices submitted by the department in connection with its tender for the erection of 206 houses on the Underhill-lane estate, which was the third lowest received.

Councillor M. P. Birch, chairman of the Housing Committee, said the 100 houses involved would be made up of seven types, ranging from blocks of four flats, costing £747 a flat, to four-bedroomed houses at £1,456 each.

Reference back of the proposal was moved by Councillor G. T. Williams, who said that in tendering for the 206 houses on the Underhill-lane estate, the direct building department asked £8,260 more than the lowest private enterprise tender. It was fair to assume that the Council would have to pay over £4,000 more than if the houses were erected by private enterprise. The work should be put out to tender, he added.

The Scottish Builder

Preserving Ancient Monuments.

AN EXHIBITION showing the work carried out by the Ministry of Works in preserving ancient monuments has been opened in a seventeenth-century building commonly called "The Sanctuary," Abbey Strand, Edinburgh, in the Canongate.

The exhibition, which will remain open during the autumn, shows, by exhibits and photographs, the state in which ancient buildings were when taken over by the Ministry, how they appeared during intermediate stages of preservation, and how they are to-day.

Among the buildings featured is Loch Doon Castle, Ayrshire, originally situated on an island in the middle of the Loch, which was threatened with submergence owing to the raising of the water level for a hydro-electric scheme. The castle was removed stone by stone and set up on the mainland.

American Architects at Kilbride.

Two young American architects are among those who have accepted an invitation open to newly qualified architects to spend this summer working at the East Kilbride new town. The invitation was extended by Mr. D. P. Reay, chief architect.

The two Americans are: Mr. Reece, Massachusetts Institute of Technology, and Mr. Crichton, who was considered the best architectural student of his year at Harvard. Mr. Crichton will be accompanied by his wife, a botanist, whose advice will be sought on the planting of shrubs and trees.

Ten American architects applied for permission to work at East Kilbride, but the number had to be restricted owing to lack of accommodation. Out of twenty applications from Scottish architects, six have been accepted.

The Late Mr. D. J. Chisholm.

THE DEATH has occurred in Edinburgh of Mr. David John Chisholm, M.C., A.R.I.B.A., of the firm of Messrs. Dick Peddie, McKay and Jamieson, architects, Edinburgh. Mr. Chisholm, who was 65 years of age, was educated at George Watson's College, Edinburgh, and at the Royal Academy Schools, London, where he was a gold medallist in architecture.

College of Agriculture, Edinburgh.

PLANS for the proposed new Edinburgh and East of Scotland College of Agriculture at King's Buildings, West Mainsroad, for Edinburgh University, are being reconsidered.

This was stated by the Principal of the College, Mr. S. J. Watson, at a meeting of the governors. Owing to the cost and other considerations, the functional form of the proposed building had received more attention by the authorities than was now desired.

Mr. Watson also stated that in connection with the establishment of regional headquarters for the north region, he thought that they would be able to get an area of about 35 acres for building within a mile of Perth.

Developments Proposed at Dunoon.

A SCHEME for a large-scale land reclamation on the east bay at Dunoon, estimated to cost £1,270.000, is shortly to be discussed by Dunoon Town Council. It will include the construction of an esplanade wall, a ferry harbour, and the building of a swimming pool, model yacht and bathing ponds, concert hall, pavilions, etc.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February, 1 1949. Every effort is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification A Craftsmen.... 2/10 Labourers.... 2/3½

Aberdeen .....A	Dumfriesshire ....A	Inverness .....A	Perthshire .....A
Ayrshire .....A	Dundee .....A	Inverurie .....A	Peterhead .....A
Banff .....A	Dunoon .....A	Kincardineshire ..A	Renfrewshire .....A
Berwickshire .....A	East Fife .....A	Kinross-shire .....A	Rothesay .....A
Bridge of Allan....A	East Lothian .....A	Lanarkshire .....A	Roxburgshire ....A
Broughty Ferry....A	Edinburgh .....A	Midlothian .....A	St. Andrews .....A
Clackmannanshire A	Fifeshire .....A	Monifieth .....A	Selkirkshire .....A
Doune.....A	Forfarshire .....A	Moray and Nairn ..A	Stewartry .....A
Dunblane .....A	Glasgow .....A	Newport .....A	Stirlingshire .....A
Dunbartonshire....A	Greenock .....A	Peeblesshire .....A	Stornoway .....A
Dumfries .....A	Hamilton .....A	Perth .....A	Tayport .....A
			West Lothian .....A

The Scottish N.J.C. award on which this is based provides for variation to current rates of Apprentices and Trainees' wages, which will be increased according to scale.

The Information given in this table is copyright.

Painters' rates : 2/10 Grade A ; 2/9 Grade B. (Grade B towns are Banff and Moray and Nairn.)

NEW BUILDINGS

Edinburgh.—Warrant granted by the Dean of Guild Court to British Electricity Authority for erection of garage at Baileyfield-rd., to cost £5,500. Agent, G. L. F. Henry, W.S., 16, Charlotte-sq.—Warrant granted the city for 214 houses at Saughton Mains, Calder-rd., at total cost of £295,170. Plans by City Architect.—Warrant granted to Andrew Robertson & Sons, 1, Ashley Goods Station, for erection of offices and cold store at Gorgie-rd. Estimated cost £5,000. Plans by Miller & Tulloch, 20, Alva-st.—Warrant granted the Scottish Amicable Building Society, 71, George-st., for extension of premises, to cost £6,000. Plans by Dick Peddie, McKay & Jamieson, 8, Albyn-pl.

Warrant granted to W. A. McLeod & Co., Ltd., Russell-rd. for factory at Gylemuir-rd., Corstorphine, to cost £100,000. Plans by A. S. Kinnear, 4, Craiglockhart-park.—Warrant granted to Thomas Usher & Sons, Ltd., Park Brewery, St. Leonard's-st., for alterations to cost £17,000. Plans by A. H. Mottram, 14, Frederick-st.—Warrant granted Henry Robb, Ltd., to erect a plater's shed at Leith Docks, costing £3,600.

Warrants granted to the city for the erection of school accommodation at Bingham-ave., Southfield (£13,700), and at Burdiehouse-cres. Southhouse (£13,700); for additional classroom accommodation at St. John's R.C. School, Hamilton-ter. (£8,200), and school accommodation at Longstone-st., Longstone (£13,700), and at Moredun Park View, Moredun (£13,700).—Warrant granted to Swift and Co., Ltd., 58, Smithfield, London, for reconstruction after fire of premises at 70 and 76, Fountainbridge, to cost £5,500.—Warrant granted to North of Scotland/Orkney/Shetland Steam Navigation Co., Ltd., for demolition of shed and erection of office premises at Leith Docks, estimated to cost £12,000.

Falkirk.—Warrant granted by Dean of Guild for extension to chemical works of Scottish Tar Distillers, Ltd., at Lime Wharf, estimated to cost £19,290.

Glasgow.—New buildings for Alexander Ferguson & Co., Ltd., Ruchill, for which the architect is Thomas S. Cordiner, Blythswood-chbrs., 261, West George-st., Glasgow

Glasgow.—Corporation to erect houses and shops, etc., at Priesthill-ave., for which the architect is Mr. Archibald J. Jury, Housing Offices, Glasgow Cross, Trongate, Glasgow.

Glasgow.—Plans are in hand for new school buildings at a Bilboa-st., site for St. Bonaventure's Junior Secondary School, for which the architect is John MacNab, 129, Bath-st., Glasgow.

Glasgow.—Plans in hand for alterations at Clarice-dr. and Crow-rd. at £16,627 to be carried out for Ross's Dairies, Ltd., 572, Dunbarton-rd., Partick, Glasgow.

Glasgow.—Plans in hand for factory buildings at the Theg American Works which is to be erected at Lochburn-rd., Possilpark, and for which the architects are William Baillie & Son, 4, West Regent-st., Glasgow. Plans in hand for additions, etc., to the Whitehill School, Armadale-st., Dennistoun, for which the architect is John MacNab, 129, Bath-st., Glasgow.

Glasgow.—Plans in hand for canteen, transformer building, and new storage accommodation at French-st., Bridgeton, for John Lean & Sons, Ltd., Weir-st., for which the architects are Wilson, Honeyman, Jack & Robertson, 96, Bath-st., Glasgow.

Glasgow.—Plans in hand for additions, etc., to St. Simon's Church, Partick Bridge-st., Partick, for the Archdiocese of Glasgow, for which the architects are Gillespie, Kidd & Coia, Wellington-chbrs., Waterloo-st., Glasgow, W.C.

Holytown.—Factory to be erected at Wester County District, for which the architect is James Glassford, 65, Osbourne-dr., Motherwell-Wishaw.

Lanarkshire.—Plans in hand for ice-cream factory for John Skeller, to be erected at Coatbridge-rd. site, Bargeddie, for which the architects and quantity surveyors are James Davidson & Son, 6, Academy-st., Coatbridge. Plans are in hand for ice-cream factory to be erected at 66 to 70, Abbeygreen, Lesmahagow, for which the architects and quantity surveyors are Frederick Smith & Partners, 4, Regent-st., The Cross, Hamilton.

Rutherglen.—Plans in hand for new church and buildings at Burnside, for which the architect is Hugh Walker, 33, Braddie-ave., Burnside, Rutherglen.

Symington.—Lanarkshire C.C. to erect 2 blocks of houses at Westside, for which the architect is Samuel MacColl, County Housing Offices, Beckford-st., Hamilton.

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TRADE NEWS

Bookstall at Marylebone Station.

With reference to W. H. Smith and Son's bookstall at Marylebone Station, illustrated in last week's issue, the aluminium sheet veneered with Australian walnut used for the job was "Vendura," a veneered aluminium, manufactured by Venesta Ltd., of London.

Change of Address.

After continuous occupation of their riverside wharf and head office premises at Belvedere-road, S.E.1, for over 100 years, Messrs. Eastwoods have now been forced to make room for the South Bank 1951 Exhibition. On July 18 the company and its associated companies moved to Eastwood House, 158-160, City-road, London E.C.1. Tel.: Clerkenwell 4333.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

AUGUST 10.

†***Bristol C.C.**—Alterations and additions at Fenchay Park Hospital to form temporary health centre. J. Nelson Meredith (F.), City A., Eagle House, Colston-ave., Bristol, 1. Dep. £2 2s.

AUGUST 12.

†**Derby C.B.**—One pair of police houses at Breedon-ave., Derby. T. W. East (F.). Boro' A., Council House. Dep. £2 2s.

AUGUST 13.

†***Essex C.C.**—Three secondary schools at (a) Hainault Forest, (b) Hornchurch Elm Park, and (c) South Ockendon (Aveley). H. Conolly (F.), County A., County Hall, Chelmsford.

AUGUST 15.

†***Birmingham T.C.**—264 dwellings at Gt. Frances-st., Duddeston & Nechells. H. J. Manzoni, C.B.E., City E. & S., Civic Centre, Tenders by September 29.

†***Bristol C.C.**—Primary school at Broomhill, Brislington. Burrough and Hannam (F.), 25, Orchard-st., Bristol, 1. Dep. £2 2s.

AUGUST 16.

†***East Sussex C.C.**—Kitchen extension at Bexhill County Grammar School. County A., J. Catchpole (A.), County Hall, Lewes.

AUGUST 17.

†***Crawley Development Corporation.**—Repair, reinstatement, alterations, etc., to hutments forming hostel at Tilgate Estate. Chief A., Broadfield, Crawley, Sussex.

†***East Sussex C.C.**—Canteen at Lewes St. Pancras R.C. School. J. Catchpole (A.), County A., Lewes.

†***Northampton C.B.**—Eight shops and 6 flats at Newnham-rd., St. David's estate. Boro' A., Guildhall. Dep. £2 2s.

†***Stockport C.B.**—Junior and infants' school at Hempshaw-la. E. Gwyn Thomas, Director of Education, Education Offices, Town Hall. Dep. £5 5s.

†***Watford R.D.C.**—34 houses and 8 flats at Green-la., Oxhey. Dawe & Carter, 83, High-st., Watford. Dep. £1 1s. Tenders by September 19.

AUGUST 18.

†***Barking T.C.**—Reinforced concrete columns, beams, hollow tile fire-resisting floors and roof flats, staircases and balconies to 66 flats and shop space at Longbridge-rd. estate. Boro' A., Town Hall.

***Blackpool C.B.**—Technical College Refectory, Hornby-rd. B.S., Municipal-bldgs. Dep. £2.

†***Crosby T.C.**—(a) 76 flats at Claremount-rd., Seaforth; (b) 36 flats off De Villiers-ave., Gt. Crosby. B.E. & S., Town Hall, Waterloo, Liverpool, 22. Dep. £2 2s.

AUGUST 19.

†***East Suffolk C.C.**—Education offices, etc., at Ipswich. E. J. Symcox, F.R.I.B.A., County A., County Hall, Ipswich. Dep. £2 2s.

†***Northampton C.B.**—Erection of Gloucester Nursery School. H. C. Perrin, Chief Ed. Officer, "Springfield," Cliftonville, Northampton. Dep. £2 2s.

***Portsmouth T.C.**—Dining-room, etc., at Wellington-pl. School. City A. Dep. £3 3s.

AUGUST 20.

***Failsworth U.D.C.**—Public conveniences at Public Library. E. & S., Town Hall. Dep. £1 1s.

†***Isle of Ely C.C.**—Kitchen and dining-hall at school in Eastrea-rd. R. D. Robson (A.), County Hall, Cambs. Dep. £2 2s.

***Kidderminster B.C.**—20 bungalows at Birchen Coppice Estate. J. G. Stewart, A.M.I.C.E., Boro' E. & S., 110, Mill-st., Kidderminster. Dep. £3 3s.

AUGUST 22.

***Andover B.C.**—10 bungalows at Love-la. site. R. S. Offord, S., "Beech Hurst," Weyhill-rd., Andover. Dep. £2 2s.

***Bootle C.B.**—14 dwellings nr. Ford station (scheme 15 (J)). E. & S., Town Hall. Dep. £2 2s.

†***Coventry T.C.**—Superstructure to block of shops and offices, Broadgate.

AUGUST 23.

†***Rugby B.C.**—194 houses at Newbold Glebe estate (section 2). Collins & Britton, 39, Bennett's Hill, Birmingham, 2. Dep. £2 2s.

AUGUST 24.

†***Hendon B.C.**—76 flats at Edgeworth-cl., Malcomn-cres. and Talbot-cres. B.E. & S., Town Hall. Dep. £3 3s.

***Merton and Morden U.D.C.**—War damage repairs to Peacock Farm. E. & S., Morden Hall, S.W.19.

AUGUST 25.

***Bournemouth C.B.**—Eight houses at Moorside-rd., Kinson. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

AUGUST 26.

***Bournemouth C.B.**—One pair of houses at Hastings-rd., Long Barrow estate. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

***Halifax C.B.**—32 houses at Beechwood-rd. and Moor End-rd. site. Boro' E., Crossley-st., Halifax. Dep. £2 2s.

***Huntingdon R.D.C.**—Six houses at Ripton and 6 at Brampton. H. E. Doe (A.), 4, Markethill, Huntingdon. Dep. £2 2s.

***Luton B.C.**—Conversion and adaptation of 63/69, Guildford-st. for office accommodation. Boro' E., Town Hall, Luton. Dep. £2 2s.

†***Walthamstow B.C.**—Demolition and rebuilding war damaged wing, Wm. McGuffie Sec. Sch. Mr. Frank H. Heaven, A.R.I.B.A., A.R.I.C.S., Arch. to Ed. Comm., Old Monoux Building, High-st., Walthamstow.

AUGUST 29.

***Dartford T.C.**—Nine lock-up shops with 16 flats over at Temple Hill Neighbourhood Unit, Scheme 2C. B.S., Barclays Bank-chbrs., High st. Dep. £2 2s.

Heanor U.D.C.—30 houses on Marlpool Farm estate. R. Archer, E. & S., Council Offices, Derbyshire. Dep. £3 3s.

***Pembrokeshire C.C.**—New office block at County Offices, Haverfordwest. Walter Barrett, M.B.E., A.R.I.B.A., County A., County Offices, Haverfordwest. Dep. £5 5s.

SEPTEMBER 1.

***Ealing B.C.**—Construction of an automatic sewage pumping station at Hanwell Works. C. W. Seddon, M.I.C.E., Boro' E., Town Hall, E.5. Dep. £2.

SEPTEMBER 5.

***Maidenhead T.C.**—24 houses at Curls-la. estate. C. T. Read, A.M.I.C.E., B.E. & S., 14, Cranford-rise. Dep. £2 2s.

SEPTEMBER 7.

***Bournemouth C.B.**—Additions at Kinson County Primary School. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

SEPTEMBER 12.

***Bournemouth C.B.**—Erection of School of Architecture and School of Catering at Municipal College. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

NO DATE.

***Leamington Spa B.C.**—32 houses at Lillington Grange estate. Rayner and Fedeski, architects, 28, The Parade, Leamington Spa. Dep. £2 2s.

***Leamington Spa B.C.**—16 houses at Windmill estate. Rayner and Fedeski, architects, 28, The Parade, Leamington Spa. Dep. £2 2s.

***West Bromwich C.B.**—Nine shops and 5 flats at Harvills Hawthorn estate, Hill Top. H. Schofield, B.Sc., A.M.I.C.E., E. & S., Town Hall. Dep. £2 2s.

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AUGUST 24.

***Merton and Morden U.D.C.**—External painting of Morden Hall. E. & S., Morden Hall, S.W.19.

AUGUST 30.

***L.C.C.**—Repainting of Barking-rd. Bridge. Chief E., County Hall, S.E.1. Dep. £2.

ROADS, SEWERAGE AND WATER WORKS

AUGUST 17.

Lincoln (Parts of Kesteven).—Construction of Swinderby Airfield-rd. diversion. County S., County Offices, Sleaford.

AUGUST 27.

***Wycombe R.D.C.**—Roads and sewers at Park-la. estate, Lane End. J. M. Smith (F.), 100, Easton-st., High Wycombe, Bucks. Dep. £3 3s.

SEPTEMBER 1.

***Ealing B.C.**—Making-up of two streets, Wilsmere-dr., Northolt, and Boston-vale, Hanwell. C. W. Seddon, M.I.C.E., Boro' E., Town Hall, W.5. Dep. £2.

GENERAL BUILDING WORK (LONDON)

Cranham. — RESIDENTIAL ESTATE. — Upminster Park Development Co., Ltd., Quadrant-arcade, Romford, have received permission to develop 153 acres between Hall-la. and Front-la. as a residential area. The company are preparing their own plans under supervision of J. E. Rogerson, managing director.

Croydon.—FACTORY, STORES AND OFFICE.—Siggs and Chapman, Ltd., Tithe Barn Works, Purley-way, Croydon, are to build a factory, stores and office in area of existing premises at Purley-way. Plans by own staff.

Croydon.—FACTORY.—A factory is proposed at Purley-way, corner of Mitcham-rd., by Rudkin & Stacey, 463, Selsdon-rd., S., Croydon.

Croydon. — FOUNDRY EXTENSION. — Croydon Foundry, Ltd., Purley-way, propose extending their foundry premises there.

Croydon.—FACTORY EXTENSION.—Troughton & Young (electrical engineers), Imperial-court, Basil-st., Knightsbridge, S.W.3, propose extending their factory at 18, Beddington Farm-rd.

Croydon. — ALTERATIONS AND ADDITIONS. — National Employers' Mutual General Insurance Association, Ltd. National Employers' House, Bury-st., E.C.3, are to make alterations and additions at 30, Wellesley-rd.

Croydon.—FACTORY EXTENSION.—Tizer, Ltd., Atlas Works, Hollinwood-ave., Manchester, 10, propose extending their factory at 16, Progress-way.

Croydon.—ALTERATIONS.—Boro' Valuer, 71, Park-la., Croydon, is supervising alterations at 94, Chatsworth-rd. to form a children's home.

Croydon.—HOUSING.—B.C. to acquire for housing, sites in following roads: Sandfield, Addison, Cambridge, Denmark, Moffat, Beauchamp and Forster.

Croydon.—CLASSROOMS.—Hugh Macintosh & Partners, F.R.I.B.A., 33-35, High-st., Croydon, have been appointed architects for four prefabricated classrooms at St. Joseph's R.C. School. Est. cost, £7,425.

Croydon.—SHOPS.—Housing Comm. approved sketch plans by Boro' E. for proposed erection of shops with living accommodation on the New Addington estate.

Dagenham. — OFFICES. — New offices at Chequers-la. are proposed by Solignum, Ltd., 30, Norfolk-st., W.C.2.

Dagenham.—HOUSES.—E. T. Dolder, 61, Blackbush-ave., Chadwell Heath, proposes 8 houses at East-rd.

Dagenham. — FACTORY EXTENSION. — Windsor Hosiery Co., Ltd., Wanty-rd., Oxlow-la., Dagenham, propose extending their factory premises. Plans by De Groot & Co., 28, Station-rd., Watford.

Harold Wood.—HOUSES.—Renewed T.P. consent for 6 houses at Squirrels Heath-rd. has been received by Wackett Bros., Ltd. (timber merchants), 2, Main-rd., Romford.

Harold Wood.—HOSTEL.—A hostel is to be erected at (St. Chad's) 83, Avenue-rd. by Essex C.C.

Hornchurch.—SCHOOL.—E.C.C. propose new school on a site at Maylands Green, off Albany-rd. County Architect's Dept.

Plumstead.—LAND FOR HOUSING.—Woolwich B.C. to acquire land at Camdale-rd. for about 16 houses.

Rainham.—FACTORY AND OFFICE EXTENSIONS, ETC.—Murex, Ltd., Ferry-la., Rainham, Essex, propose extending their offices and also their factory to provide a hydrogen plant. Other building work is contemplated. Plans by own staff.

Romford.—KITCHEN AND DINING-ROOM.—E.C.C.

to erect kitchen and dining accommodation at Romford C.H. School for Girls. County Architect's Dept.

South Norwood.—EXTENSION.—National Provincial Bank, Ltd., 15, Bishopsgate, E.C.2, are to make an extension to their branch premises at 75-76, High-st., S.E.25.

Upper Norwood. — HOUSES. — Streatham Property Investment, Ltd., 1258-60, London-rd., Norbury, S.W.16, propose five houses on sites at 43, 49, 57, 59 and 61, Gibsons-hill.

(PROVINCIAL)

Accrington.—Plans approved by T.C. for alterations to the Union Inn, Hyndburn-rd., for Matthew Brown & Co., Ltd., and Nuttalls Breweries; alterations to works at Oxford-st. for Ajax Press Co.—T.C. propose 40 houses, Lowergate-rd.

Birmingham.—Completion of Lea Hall Colony proposed by Regional Hospital Board. Architect, D. A. Goldfinch.

Brighouse.—B.C. to seek loan of £11,830 for 14 bungalows, Stoney-la. estate. Boro' E., H. A. Sneezum, A.M.I.C.E.

Bristol.—Dockland Settlement Council propose a new settlement on site at Portland-sq., for which Ralph Edwards is the architect.

Burton-on-Trent.—E.C. propose technical school between Fleet-st. and Abbey-st.

Carnforth.—A new C. of E. school adjoining church is proposed by School Managers at £21,000.

Clitheroe.—T.C. propose six aged persons' bungalows at Bolland Prospect.

Coseley (Staffs).—316 houses at Old Park Farm. Architects, Bridgewater & Shepheard, 42, Bruton-pl., Berkeley-sq., London, W.1.

Darlington.—T.C. propose alterations to form clinic in Back Beaumont-st.; approved plans for office accommodation, Valley-st., for D. Boyd & Sons; alterations to cleaning shop, Dodsworth-st., for Darlington Wire Mills Co., Ltd.—Boro' A., E. A. Tornbohm, has prepared layout plan for Firth Moor estate, showing position of proposed primary school.

Darlington.—T.C. to obtain tenders for houses at corner sites on various housing estates to plans by Boro' A., E. A. Tornbohm.

Dukinfield.—T.C. propose 20 bungalows at Dukinfield Lodge site. Architects, Cruickshank & Seward, F.R.I.B.A., 16, Princess-st., Manchester 1.

Durham.—Next year County E.C. proposes providing school meal facilities at 46 schools. Cost will range from £1,800 to £11,000 per school. Plans by the County A., Court-la., Durham.

Durham.—C.C. to adapt Houghall Hospital as male students' hostel for agricultural department. Plans by County A., Court-la., Durham. No contracts let.

Eccles.—T.C. approved plans for alterations and additions to Nassau Mill, Patricroft, for C. Bradshaw, 41, South King-st., Manchester.

Felling-on Tyne.—U.D.C. received M.H. consent to borrow £119,942 for 98 houses at High Lanes, Heworth.

Glendale.—Tenders are to be obtained by R.D.C. for a further 8 houses at Millfield. Plans in hand for 20 houses, Weetwood-ave., Wooler, and 40, Ramsey-la., Wooler.

Gosforth.—U.D.C. applied for sanction to borrow £7,000 for proposed public library. The Manor Building Co. (Newcastle), Ltd., are planning erection of 28 houses on various sites. —A proposal is under consideration for rebuilding the "Coxlodge Hotel" at Riddell-ter.

Guildford.—Proposed new civic hall to cost £160,000. T.C. considering the scheme.

Halesowen.—Worcs E.C. propose new school at Hawley Grange and Parkfields estate; secondary and technical school at Furnace Park estate.

Hartlepool.—T.C. considering improvements to Hartlepool bathing pool, including provision of chlorinating plant, foot baths and relaying of floor of the pool. R. H. Snowball, Boro' Engr.

Ilkeston.—B.C. propose civic restaurant, East-st.

Lancs.—C.C. propose extensions and alterations to County Institute of Agriculture, Winmarleigh, at £11,451, and 4 cottages at £5,500. G. Noel Hill, F.R.I.B.A., County A., Council Offices, Preston.

Lincolnshire (Kesteven).—C.C. propose technical institute and county college at Stamford.

Manchester.—Ed. Comm. propose dining-room and kitchen at Spurley Hey County Secondary School, Mount-rd., Gorton; additional classrooms at Moston Fields County Primary School, Moston-la., Moston; school dining-rooms and kitchens at York-st., Blackley, and Whalley Range High School; additional classrooms at St. Malachy's R.C. Voluntary Primary School, Erasmus-st., Collyhurst; community centre at Burton-rd., Withington.—Housing Comm. propose 16 houses at Thornton-st., Collyhurst; conversion into first-aid room and clinic of house at Greenbrow-rd., Newall Green, Baguley; 84 flats at Leaf-st., George-st., Duke-st. and Clarendon-st., Hulme.—Parks Comm. propose public conveniences at Gorton Park, Belle Vue-st., Queen's-rd., Gaskell-st. recreation ground, Newton Heath, Cheetham Park and Sherborne-st., Cheetham.—Watch Comm. propose conversion of Industrial School into Police Div. H.Q. at Eichmond-gr., Stockport-rd., Longsight.—Wythenshawe Estate Comm. propose 24 lock-up shops, 24 maisonettes and 24 garages at Main Centre, Greenbrow-rd., Newall Green; 7 lock-up shops, 7 flats and 7 garages at Woodhouse Park and Moss Nook, Northern Etchells; 4 lock-up shops, 4 flats and 4 garages at East Sub-Centre, Blackcarr-rd., Baguley Hall; 10 shops, flats and garages at Woodhouse Park and Moss Nook, South-West Sub-Centre, Northern Etchells; 7 shops, 7 maisonettes and 7 garages at West Sub-Centre, Bowland-rd.; approved additional storey on telephone exchange at Raby-st., Moss Side; to acquire land at Oxford-rd., Wright-st. and Dover-st., Chorlton-upon-Medlock, for extensions to university.

Market Drayton.—U.D.C. propose a mortuary. Site not yet decided.

Middlesbrough.—T.C. to obtain tenders for 12 bungalows on various sites at Thorntree.—The Boro' E., J. A. Kenyon, has prepared layout plans for houses on 18 acres at Saltersgill.—Carbutt, Archibald & Archibald, 25, Albert-rd., Middlesbrough, are archihects for factory alterations in Dock-st. for C. Horne & Co., Ltd., rebuilding of 5 war-destroyed houses, Orwell-st., for C. Cohen, and for offices in Westmorland-rd. for A. Hinton & Sons, Ltd.

Newcastle-on-Tyne.—Newcombe & Newcombe, 23, Eldon-sq., Newcastle, are architects for proposed physiotherapy dept. in New Bridge-st. for the Comm. of Newcastle Dispensary.—Clarence Solomon, 3, St. Mary's-pl., Newcastle, has prepared plans for warehouse and garage, Hannington-st., for Northern Food Products, Ltd., and for an engineering shop in Skinnerburn-rd. for Tyneside Foundry Co., Ltd.—The Imperial Tobacco Co., Ltd., Bristol, are to erect meter house, pressure tank house, locomotive shed and weighbridge house at their new factory now in course of erection on Coast-rd.—W. J. Smith, 1, Granville-rd., Newcastle, has prepared plans for film vault at Friars for Warner Brothers.—L. J. Couves & Partners, Carliol House, Newcastle, are architects for alterations in Shields-rd. for Stewarts & Lloyds, Ltd.—City Welfare Comm. to carry out alterations to "Myrtle Cottage," Benlinck-rd., to plans by City A., 18, Cloth Market, Newcastle. —Jackson & Son (Clothiers), Ltd., propose alterations for showroom and workroom in Northumberland-st. to plans by Stephenson & Gillis, Saville-chbrs., North-st., Newcastle.—Page, Son & Hill, 75, King-st., South Shields, are architects for proposed alterations to "Royal Oak" hotel, Walker-rd., for Robert Deuchar, Ltd.—T. B. Pearson & Son, engineers, Wincomblie-rd., Newcastle, to erect engineering workshop and have prepared own plans.

Newcastle-on-Tyne.—Health Comm. propose a health centre on the Blakelaw estate, to be followed by 15 or more in other parts of the city. City A., G. Kenyon, 18, Cloth Market, Newcastle.

Newcastle-on-Tyne.—Preliminary plans for girls' secondary modern school on Blakelaw estate have been forwarded to M. of H. by E.C. City A. is George Kenyon.

Newcastle-on-Tyne. — E.C.'s building programme for next year includes secondary modern school at Blakelaw, a county primary school at Montagu, and a secondary technical school at West-rd. City A., G. Kenyon, 18, Cloth Market, Newcastle-on-Tyne.

Newtown.—Factory extensions proposed by Chalwyn Lamps at St. Clements-rd. premises.—Poole Corpn. propose dwellings on 18 acres off Ringwood-rd.

North Riding.—M. of E. approved proposals for following schools to be built next year:—Redcar girls' secondary grammar and commercial school, Eston secondary modern school, Easingwold secondary grammar and modern school, Ryedale secondary modern school, Whitby secondary modern school, Grangetown infants' school, Guisborough infants' school, and Thornaby infants' school.

North Shields.—Tyne Improvement Commission, Newcastle-on-Tyne, to extend fitting shop at Albert Edward Dock, North Shields. Tenders are being invited. Plans by Commission's Chief Engineer.

Northumberland.—Brunton Camp at Embleton is to be converted into a modern school at £20,000. Architect, W. W. Tasker, County A., County Hall, Newcastle.

Northumberland.—C.C. approved £20,000 plan by County A., Newcastle, for converting Brunton Camp into rural modern school. Sketch plans have also been prepared for primary school in Langley-ave., Monkseaton.

Nottingham.—T.C. propose further adaptations to Taylors factory, South-st., at £20,000; secondary school, Wigman-rd.

Parkstone.—Poole Corpn. propose civic centre on site between Commercial-rd., Park-rd. and Sandbanks-rd.; dwellings on site off Alder-rd., Branksome.

Redcar.—B.C. to build 40 houses by contract. Architect, J. Hilton, Boro' S., Municipal Offices, Redcar.

Scarborough.—Baker & Clark, York-pl., Scarborough, are architects for alterations to "Ramshill Hotel," Ramsmill-rd., for Scarborough & Whitby Breweries, Ltd.

Sheffield.—T.C. to lease land at West Nab, Bradfield, to West Riding C.C. for police wireless station; propose fire station, Darnall-rd.

Spennymoor.—Contracts are to be let by U.D.C. for 120 houses, Tudhoe Moor.

Staffs.—C.C. propose police station at Tatenhill. A. C. H. Stillman, County A.

Stalybridge.—B.C. propose bus station at Angel Inn site and public conveniences at Sycamore-st. and adjoining Hagues Steps.

Stockport.—B.C. propose community centre at Bridge Hall estate; junior school at Bridge Hall, Hollywood Park; nursery school and dining-room at St. Mary's R.C. school, Dodge Hill; junior school at Didsbury-rd.—Approved plans for 8 houses and block of flats at Greg-st., South Reddish, for Craven Bros., Ltd.; new facade, office block and boiler-house at Travis-st. for Stockport Express, Ltd.; rebuilding of Royal Oak hotel, Castle-st., for Walker & Homfrays, Ltd.; public-house at Didsbury-rd. for Boddingtons Breweries, Ltd., and site for church hall at Cheadle Old-rd. for Trustees of Edgeley-rd. Congregational Church.—E.C. received M.O.E. approval of preliminary plans for Vale-rd. secondary school.—T.C. propose health centre with underground conveniences at Rupert-st.

Stockton-on-Tees.—G. P. Stainsby, 57, High-st., Stockton-on-Tees, is architect for alterations and additions to Stockton Isolation Hospital at £12,000.

Stokesley.—Tenders are being obtained by R.D.C. for erection of public convenience at

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LEAD PRODUCTS

Associated Lead Manufacturers, Ltd., have announced (July 28) that owing to an increase of £1 7s. 6d. per ton in the controlled price of pig lead, the following advance in the *basis price* of lead products comes into force forthwith, thus cancelling an advice dated July 26, 1949:—

	Increase. £ s. d.	*Current Price.* £ s. d.
Dry White Lead Ground White	1 5 0	112 5 0 per ton
White Lead Paint	1 5 0	132 15 0 per ton
Magnet Hard Gloss	6	2 2 6 per gal.
Red Lead and Litharge	Unchanged at	2 1 6 per gal.
Red Lead Ground in Oil	1 10 0	102 0 0 per ton
Red Lead Paint—	1 10 0	126 0 0 per ton
Type 1	6	2 4 0 per gal.
Type 2	6	1 15 0 per gal.
Lead Pipe	1 10 0	101 10 0 per ton
Lead Sheet	1 10 0	100 5 0 per ton
Lead Shot	1 10 0	111 10 0 per ton

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The Ministry of Supply announces that from July 29 its buying price for rough copper, in slabs of from 2 to 3 cwt., is increased from £70 to £77 10s. per ton.

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Great Ayton. Architect, J. R. Wetherell, Hutton Rudby, Yarm.

Stretford.—B.C. approved plans for extensions and alterations to canteen and kitchen, Chesterrd., for H. & J. Quick, Ltd.; open shed for gas-producer plants, Westinghouse-rd., for Metropolitan Vickers Electrical Co., Ltd.; offices, showrooms and workshops at Chesterrd. for Kings Motors (Oxford), Ltd.; alterations to Lyceum cinema, City-rd., for the Emery Cinema Circuit, Ltd.

Sunderland.—W. Riddle, 33, Jesmond Park West, Newcastle-on-Tyne, has prepared plans for rebuilding motor works in Paley-st.—Vasey & Reed, estate agents, Queen-st., South Shields, are planning erection of 10 houses, one shop and a garage in Church-st. West and Pallion New-rd.—Stephenson & Gillis, Saville-chbrs., North-st., Newcastle-on-Tyne, are architects for extending Atlas Works, Bonnersfield.—W. & T. R. Milburn, 17, Fawcett-st., Sunderland, are architects for rebuilding south vestries at St. Barnabas Church, Suffolk-st.—G. T. Brown & Son, 51, Fawcett-st., Sunderland, have prepared plans for warehouse, shop and offices in High-st. West.

Tipton.—B.C. propose 102 houses at Station-Fields site.

Torbay.—Div. Ed. Executive approved 5-year building programme as follows:—Primary schools, Torquay; Shiphay junior, 1951; Cockington infants', 1954; Watcombe infants', 1954. Paignton: Foxholes junior and infants', 1951; Foxholes infants' 1954; Collaton St. Mary additional classrooms, 1950; Stoke Gabriel additional classrooms, 1951; Churston Ferrers adaptations, 1951. Dartmouth: Townstal, 1952. Brixham: Mixed primary school for 120, 1952.

Secondary schools. Torquay: Audley Park school, additional classrooms, 1951. Paignton: Boys' modern school, additional classrooms, 1952 or 1953; girls' modern school, new, 1952.

Tynemouth.—Tenders to be obtained immediately by T.C. for £79,000 scheme for pumping station on River Wansbeck. Plans by Water Engr., Northumberland-sq., North Shields.

Warrington.—B.C. approved plans for works extensions at Scotland-st. for Peter Stubs, Ltd.; 12 houses and factory extensions at Walton for Laporte Chemicals, Ltd., Luton; works extensions at Academy-st. for Rylands Bros., Ltd; alterations and additions to offices at Church-st. for Thos. Locker & Co., Ltd.; extensions at Horsemarket-st. for Timothy Whites & Taylors, Ltd.; 6 houses at Beatty-ave. for Orford Building & Repair Co.

Warwickshire.—C.C. propose second instalment to Rugby Dunsmore county secondary modern school at £118,800; second instalment of Castle Bromwich county secondary modern School at £110,000; first instalment of Stoneleigh-Finham county junior and infants' school at £79,000; three county secondary schools at Rugby, Kingsbury, and Shipston-on-Stour at £108,000. County A., C. H. Elkins.

Weardale.—R.D.C. to build 40 houses at Stanhope. Architect, J. J. Eltringham, Derwent-st., Blackhill, Co. Durham.

West Hartlepool.—E.C. approved in principle establishment of R.C. school in Weller-rd. area.

Whitley Bay.—E. Roberts, U.D.C. surveyor, has prepared 5-year programme providing for 600 houses.

Workington.—B.C. approved plans for renovations to warehouse for T. Proudfoot, East Tower-st., Carlisle; extension to dispensary at Upper Jane-st. for E. Smith.

Yarmouth.—Ed. Comm. propose following building programme for 1951-54:—1951, Magdalen College estate junior school (estimated cost £97,000); 1952, Magdalen College estate infants' school (£48,400), and Lawn Avenue junior school (£67,000); 1953, high school for girls (£178,000); 1954, grammar school for boys (£178,000).

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Altrincham.—60 houses at Grange estate, for B.C.: Kenyon Construction Co., Altrincham-rd., Ashton (to be negotiated).

Birkenhead.—60 houses at Woodchurch estate: *Lloyd & Cross, Ltd., 68, Argyle-st., Birkenhead.

Blackpool.—4 houses at Mereside estate, for T.C.: *A. Lewis & Co., 248, Fleetwood-rd., Cleveleys, £5,786.

Blyth.—Following builders are sharing erection of 43 houses in Newsham-rd. for T.C. Boro' Eng., D. W. Foster:—Towers & Son, Union-st., Blyth; T. H. Nicholson, High-st., Blyth; Blyth Co-op. Building Dept., Hawthorne-rd., Blyth; Goulding & Son, Simpson-st., Blyth; R. Hush, Union-st., Blyth; J. E. Dover, Croft-rd., Blyth, and J. & W. Simpson, Cowpen-rd., Blyth.

Bury.—New County Secondary Modern School at Owlerbarrow, Walshaw-rd., for C.B. B. E. Bank-st.: *James Hobson & Sons, Ltd., Newark-st. Works, Nottingham.

Clun.—4 houses at Clunbury and 4 at Clungunford, for T.C.: *J. E. Keeley, Brookdale, Wigmore, Herefordshire.

Droitwich.—Houses at Stalls Farm estate, for T.C.: (20) *B. Whitehouse & Sons, Ltd., 247, Monument-rd., Birmingham (extension to contract); (10) *George Bourne, Ltd., 33, Ombersley-st., Droitwich.

Eastry.—22 houses at Molland-ln., Ash, for R.D.C.: *R. L. J. Emes, £27,700.

Eltham.—14 houses on Coldharbour estate, for Woolwich B.C.: *J. A. Proctor, Ltd., Plumstead, £21,006.

Gateshead.—Sewage disposal works in connection with Wrekenton housing site, for T.C. Acting Boro' Eng., A. J. McGregor: *Direct Labour.

Harrogate.—Showrooms and offices for North Eastern Electricity Board. Architects, L. J. Couves & Partners, Carliol House, Newcastle: *A. Stephenson, contractor, Knaresborough.

Hebburn-on-Tyne.—Erection of further 38 houses at Campbell Park housing site, for U.D.C. Architects, Page, Son & Hill, 75, King-st., South Shields: *Direct Labour (subject to M.H. approval).

Houghton-le-Spring.—80 houses on Barnwell estate, for U.D.C.: *Direct Labour, £103,928.

Jarrow.—100 houses, for T.C.: Electrical work, *Illuminating Installations; stairs, *Magnet Joinery Co.; hardware, *Gatrix, Ltd.; and sanitary fittings, *Freeborne, Ltd.

Kent.—County primary schools at following places, for C.C.: Dartford Heath Farm, Erith, Belmont, Erith Lessness Heath, Maidstone Shepway, and Orpington Chelsfield. Quantities by E. C. Harris & Partners: *Gilbert Ash & Co., Ltd., for the Bristol Aeroplane (Housing) Co., Ltd.

L.C.C.—Contracts exceeding £2,500 in value have been placed by the L.C.C. during the period ended July 27:—

For foundations of the second part of the Woodberry Down Primary School, C. P. Roberts & Co., Ltd., W.C.1; supply and erection of oak pale screen fencing at Debden, Hainault and Chingford estates, Essex, Durofencing Ltd.; for repairs of war damage at Monson-rd. School, Deptford, Edward Proctor & Sons, S.E.18.

L.C.C.—Contracts exceeding £2,500 in value placed by L.C.C. during period ended August 2:—

For cleaning and painting at Shooters Hill Sch., Woolwich, Thomas & Edge, Ltd., S.E.18; Lyndhurst-gr. School, Camberwell, and Oliver Goldsmith Sch., Camberwell, Bunting Construction Co., Ltd., S.W.2; Northwold-rd. Sch., Hackney, Kind & Co. (Builders), Ltd., E.11; Old Woolwich-rd. Sch., Greenwich, W. Mills & Sons, Ltd., S.E.10; Oxford Gardens Prim. Sch., Kensington, Charles Berger & Son, Ltd., W.2; Princeton-st. Sch., Holborn, Rogerson & Co. (Builders), Ltd., W.C.2; Wandsworth Sec. Sch. and Norwood Tech. Coll., Whyatt (Builders), Ltd., S.W.12; Wornington-rd. Sch., Kensington, H. Meckhonick, Ltd., W.1; Westhorne Sch., Woolwich, W. H. Gaze & Sons, Ltd., W.1; Wilmot-st. Sch., Bethnal Green, W. Martin (Finsbury), Ltd., E.C.2; Waterside Sch., Hammersmith, C. F. Kearley, Ltd., W.4; Albany-rd. Sch., Camberwell, Drury & Co., Ltd., S.E.5; Highbury Co. Sch., Holland & Hannen and Cubitts, Ltd.; Sherbrooke-rd. Sch., Fulham, Painting and Maintenance Contractors, Ltd., S.W.1; St. Paul's-way Sch., Stepney, Mansfield & Hill, Ltd., E.C.3; Upper North-st. Sch., Poplar, and Gainsborough Sch., Hackney, Stoneley & Co., Ltd., Ilford, Essex; Haimo-rd. Sch., Woolwich, Gough Cooper & Co., Ltd., Wilmington, Kent; Glengall-rd. Sch., Poplar, and Fairfield-rd. Sch., Poplar, R. H. Brookman, Ltd., E.14; Downderry Sch., Lewisham, and Baldham-sq. Sch., Woolwich, E. Proctor & Sons, S.E.18; Duncombe-rd. Sch., Islington, J. Garrett & Son, Ltd., S.W.12; Detmold-rd. Sch., Hackney, C. J. Manning (Builders), Ltd., E.7; Fulham Cent. and Finlay-st. Prim. Sch., Fulham, H. Parfitt & Sons, Ltd., Wembley; City Library Inst., Westminster, Friars Prim. and Spec. Sch., Southwark, Putney Co. Sec. Sch., Fulham Co. Sch. and Carlyle Gram. Sch., Chelsea, F. G. Minter (Decorations), Ltd., S.W.1; Brownhill-rd. and Catford Cent. Schs., Lewisham, H. Hollidge, S.W.12; Bonner-st. Sch., Bethnal Green, S. Grover, Ltd., E.7; Hither Green Sch., Kent & Sussex Contractors, Ltd., Sidcup, Kent; S.E. London Tech. Coll., Deptford, Greenaway & Son, Ltd., S.E.22; Ravensbourne Sch. Annexe to S.E. London Tech. Coll., C. A. Bevan & Sons, Ltd., S.E.14; Brixton Sch. of Building, J. Garrett & Son, Ltd., S.W.12; Beaufoy Inst., Lambeth, Truett & Steel, Ltd., Thornton Heath; Finsbury Park Jun. Sch., A. Roberts & Co., Ltd.; and Finsbury Park Sen. Sch., E. S. Moss, Ltd., N.W.4.

¶London (Admiralty).—Bramcote, R.N.A.S., Nuneaton, internal redecoration of workshops, etc., G. E. & W. Wincott, Ltd., 64, Coton-rd., Nuneaton.

¶London (Admiralty).—Particulars of a contract placed by the Admiralty:—Invergordon: H.M. Naval Base, demolition work, Macartney, Ltd., 20, Findhorn-pl., Edinburgh, 9.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended July 30. *Construction work*: J. Gerrard & Sons, Ltd., Swinton, Manchester; *heating installation*, Z. D. Berry & Sons, Ltd., London, S.W.1, William Freer, Ltd., London, W.C.1; *general maintenance work*: Beric, Ltd., Epsom, Surrey, A. J. Darneley & Sons, Ltd., Hull.

¶London (M. of W.).—Contracts placed by M. of W. for week ended July 23:—

Carmarthenshire: Coun. Sch., Cross Hands, kitchen and dining-room, Isaac Jones (Llanelly), Ltd., Temple Joinery Works, Llanelly. *Devonshire*: Brixham, coastguard dwellings, Theo. Boultons & Co., Ltd., Katheo, Shipley-la., Torquay. *Glos*: Coun. Sch., Thornbury, temp. sch. bldgs., Wilkins & Coventry, Ltd., 91, Cumberland-rd., Bristol. *Hants*: Girls' Co. Sec. Sch., Lowther-rd., Bournemouth, kitchen and dining-room, Victor L. Young, 44, Porchester-rd., Bournemouth. *Herefordshire*: Holmer and Huntingdon C.E. Sch., temp. sch. bldg., Mitchell & Co., Pomona Works, Holmer, Hereford; Etnam-st., Leominster, sch. kitchen, George Linnecor & Son, Ltd., 154-6, Newtownrow, Birmingham. *Hunts*: C.E. Sch., Priory-rd., St. Neots, additional classrooms, Haywin, Ltd., Oakley House Estate, Oakley, Beds. *Kent*: Postman's Office, Inland Revenue Office, Margate, completion, Rice & Son, Ltd., Prudential-bldgs., Cecil-sq., Margate. *Lancs*: St. Peter's and St. Paul's Sch., Bolton, hutted accommodation, Paul Fairclough, Clive-st. Sawmills, Bolton. *Middx.*: Kneller Sch., Meadway, Twickenham, temp. sch. buildings, Limpus & Son, Ltd., 7, Kingston-hill, Kingston-on-Thames; Met. Office, Wealdstone, Harrow, interior painting, F. Froy & Co., Ltd., 131, Great Suffolk-st., S.E.1. *Monmouthshire*: Glenhowy Sch., Tredegar, temp. sch. building, Gilbert Brown (Builders), Ltd., Westway, Fairview, Ebbw Vale. *Northumberland*: Westerhope Coun. Sch., additional classrooms, Constables (Newcastle), Ltd., Groat House, Newcastle. *Stirlingshire*: Camelon Pub. Sch., Falkirk, temp. classrooms, John Crow & Sons, 3, Coates-pl., Edinburgh. *Surrey*: M/Labour Rehabilitation Centre, Egham, 2 pairs of cottages, Tarrant Builders, Ltd., Wentworth, Virginia Water, Surrey. *Wilts.*: Sen. Sch., Malmesbury, temp. sch. buildings, E. A. Hider, Ltd., High-st., Malmesbury.

Malvern.—48 houses at Langlands site, for R.D.C. S. & Water E., Council House. Quantities by Oswald Wainwright: ‡ Wilesmith & Son, Malvern Link.

North Shields.—Factory alterations at West Chirton, for Malone Instrument Co., Ltd. Architect, G. H. Gray, Camden-st., North Shields: *Hastie D. Burton, Ltd., North Shields.

Norwich.—Extension to the City College and Art School in Ipswich-rd.: *R. G. Carter, Ltd., Drayton, £107,867.

Oldbury.—32 houses at Titford estate, for

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B.C.: *Smith Bros., 570, Hagley-rd., West Quinton, £42,274.

Portsmouth.—Erection of Paulsgrove primary school infants' depts., for T.C. City A., Municipal Offices, 1, Western-parade, Southsea:

Cortis & Hankins, Ltd., Portsmouth	£122,600
Tersons, Ltd., London	120,600
Sloggetts, Ltd., London	120,482
J. Hunt, Ltd., Gosport	120,314
Dem. & Constr., Ltd., London	119,955
Davis Contractors, Ltd., London	118,989
Gorham Contractors, Ltd., London	118,660
H. Jones & Son, Ltd., Portsmouth	117,996
E. E. & V. H. Dye, Portsmouth	117,628
Hawkins Bros., Gosport	117,165
Kirk & Kirk, Ltd., London	116,899
Gee, Walker & Slater, London	116,290
J. Lay & Co., Ltd., Portsmouth	115,620
Howe & Bishop, Ltd., Portsmouth	115,232
Cooper & Rowe, Ltd., Bournemouth	114,312
F. J. Privett, Ltd., Portsmouth	113,474
Chapman, Lowry & Puttick, Ltd., Haslemere	112,280
*Myton, Ltd., London, S.W.1	106,222

Portsmouth.—76 dwellings at Leigh Park, contract No. 5, for T.C. City Architect, Portsmouth:

Cortis & Hankins, Ltd., Portsmouth	£127,026
E. E. Dye & V. H. Dye, Portsmouth	120,147
H. E. Collins, Ltd., Portsmouth	114,843
Gorham, Ltd., London, W.1	114,683
Brazier & Son, Southampton	113,917
Healy & Evans, Portsmouth	112,092
Warings, Ltd., Portsmouth	111,032
H. Jones & Son, Portsmouth	109,963
*Auriol Builders, Ltd., 55, Carmarthen-ave., Cosham	104,120

River Wear.—Widening the river, for River Wear Commissioners: *Myton & Son, Ltd., Warwick House, Cockspur-st., London, S.W.1, £107,376.

Stirlingshire.—New office buildings for Falkirk Iron Works Co., Ltd., Grahamston, Falkirk. William Graham, architect, 30, Newmarket-st., Falkirk Central: Steel structural works, etc., *The Lambhill Iron Works, Ltd., Lambhill, Glasgow; excavation, brick, building and allied works, etc., *D. & J. Ogilvie, Ltd., Stirling; asphalt works, etc., *The Neuchatel Asphalte Co., Ltd., Glasgow; joinery, carpentry and allied works, etc., *Alexander Lang & Son, Falkirk; glazing work, etc., *D. O'May, Ltd., Falkirk; tile work, etc., *MacPherson & Co., Glasgow; plaster, lathing and allied works, etc., *David MacNair & Sons, Ltd., Falkirk; plumber work and sanitary engineering, etc., *Hendry & Godfrey, Falkirk; heating engineering and installation works, etc., *J. Coombe & Co., Ltd., Glasgow; terrazzo and allied works, etc., *Toffolo, Jackson & Co., Ltd., West Regent-st., Glasgow.

Tamworth.—48 houses, Fazeley-rd. site, for T.C. H. T. Bruce Smith, B.E. & S.: *A. Pursehouse & Sons, Rookery-st., Wednesfield, Staffs. £63,091.

Tipton.—8 houses at Upper Church-la. estate, for B.C.: *Direct Labour.

Tynemouth.—Alterations at No. 16, Northumberland-sq. to provide accommodation for Boro' Eng.'s Dept. of T.C.: *F. P. Dodsworth, Whitley Bay, £9,096.

Tynemouth.—Houses, for Corporation: (40) *J. H. Rogers, 3, Alexandra-rd., West Tynemouth; (116) *W. Leech, Ltd., Clayton-st., Newcastle; (8) *T. H. Rigby, 11, Parkside, Tynemouth.

Worthing.—Licensed premises at Marine-parade, Worthing. Architects, Lawrence A. Cooper & P. Winton-Lewis, 29, Manchester-st., London, W.1. Quantities by Eastman & Partners, 59, Windsor-rd., Slough, Bucks:

Holland & Hannen and Cubitts, Ltd.	£39,751
Gorham (Contractors), Ltd.	38,824
Y. J. Lovell & Son, Ltd.	35,388
W. H. Gaze & Sons, Ltd.	35,217
Field & Cox, Ltd.	33,500
Patching & Co.	33,477
James Longley & Co., Ltd.	33,397
*Trollope & Colls, Ltd.	33,187

Worthing.—48 houses with external works and services at Loose-la., Sompting, for R.D.C. E. & S., Council Offices, 15, Mill-rd.: *Gorham (Contractors), Ltd., 4, The Crescent, Goring-rd., Goring-by-Sea, Worthing.

York.—Four pairs of houses at Askham-ln. and Eason-view, for Corpn.: ‡F. Bilton, Ltd., £10,230.

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